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VICK'S MAGAZINE

ILLUSTRATED

MONTHLY



APRIL, 1900.

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PAINTED FOR VICKS' ILLUSTRATED MONTHLY MAGAZINE

MAG. MILLAN CO. ROCHESTER, N.Y.

Trillium Grandiflorum

VICK'S ILLUSTRATED MAGAZINE

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APRIL, 1900

No. CCLXVIII.
No. VII.

OUR NATIVE TRILLIUMS.

THERE are seven native trilliums pretty widely distributed between Canada and the Carolinas, some of them extending as far west as the Missouri River. Besides the clearly distinguished forms, a number of varieties and "sports" are not uncommon. *Trillium sessile*, L., alone presents four distinct varieties that have found place and name in authoritative botanical literature. In all the trilliums there is considerable tendency to variation, and the formation of monstrosities. The flower parts are normally in threes, but they may frequently be found in fours, and at times in place of a flower a rosette of leaves may occur. This tendency to sport may be a hint of the possibilities of these plants. Who can tell what results in the line of developing the trilliums might be accomplished by a skilled and patient florist who will select this and that peculiarity and bend his efforts toward rendering them more pronounced and permanent?

Take the case of the species already mentioned—our little brown wake-robin, sometimes called the three-leaved nightshade, so familiar to every amateur botanist. Ordinarily this plant stands six to ten inches high, spreading its three round, dark green, strongly veined, stemless leaves from a common center at the top of the plant-stalk where in

their midst nestles the little brownish-purple, calycanthus-like flower, about three-fourths of an inch high. Such is the general run of these little brownies, and even they are attractive enough in their modest way. But then, occasionally, a stroll through the early May woods will bring you upon a little community

of more aristocratic breeding. The leaves are of as rich a green as ever, but they are more "airy" in their ways. They are not so crowded at the common base. The flowers are also more open, showing more variety in coloring, with a shading from a deep brown beneath to a purplish green toward the tips, and on rarer occasions becoming almost white, and standing over two inches high from their sessile bases. That much alone has been accomplished by the chance favors of nature.

What may be expected under the intelligent guidance of a skilled florist?

A near relative of the above is *Trillium recurvatum*, Beck, the prairie wake-robin, a more western plant, and one much more open in all its ways. The leaves are petioled, longer and more pointed. The flowers are of about the same size and color, though usually of a deeper brown or purple, and the plants stand at about the same height, though they prefer more grassy places than their brother brownies like. Their most distinguishing



One-half natural size

TRILLIUM CERNUUM

*One-third natural size*

TRILLIUM UNDULATUM

feature, however, is their very strongly reflexed outer sepals which in the open flower bend back until they touch the plant stem underneath the leaves.

But the glory of all the trilliums is *Trillium grandiflorum*, Salisbury. This is usually a little later to appear than the other trilliums, but when it does come, about the middle of May, it finds a hearty welcome, as many lovers of wild flowers count this their favorite. Indeed it has many handsome qualities. The plants stand from a foot to fifteen inches high, with three large, well-shaped leaves, from the midst of which rises the single large flower, mounted on a graceful stem that lifts it about two inches above the glossy green leaves.* The flowers have quite an open aspect when fully developed, and measure between two and three inches across. They are mostly white and delicately veined, though greenish tinged, and rose and pink tinted, forms occur. It is usually thought that the rose tint is acquired after the bloom is some days old, but I have found specimens already quite roseate before the bud was fully open, and on the other hand withered white flowers are abundant which never presented a pink tinge. The plant loves the deeper shade of a

forest and there the flowers are commonly white. The tinted specimens are more likely to occur in the more open places in the woods. This species is very delicately perfumed.

Of taller aspect, though of less beauty, but of equal interest, is *Trillium cernuum*, L. This is a sly plant, and I am inclined to suspect it of certain tricks that have not as yet been fully disclosed. Why does it duck its head so modestly under the broad, spreading leaves as if it were ashamed or too bashful to look you in the face? I do not believe it is all modesty; there must be a deeper purpose. I wonder if it might not sometimes be caught flirting with some night-moth who finds the warm shelter of the canopy of those wide-spreading leaves and the banquet of nectar rather tempting. At any rate, somehow this species manages to mature a good proportion of its red-purple berries, and its communities are usually prolific and quite extended, a single patch covering as much sometimes as a half acre. The flowers are white, sometimes pink, and measure an inch to an inch and a half across. They have a disagreeable odor which is not so offensive, however, as that of *Trillium erectum*, L., the foetid wake-robin, or true birth-root.

This plant, *T. erectum*, has somewhat the appearance of *T. cernuum*, but the flowers are usually dark purple, though sometimes



TRILLIUM RECURVATUM

One-third natural size



One-half natural size

TRILLIUM ERECTUM

they may be pink or even white. The specific name is misleading, as the flowers are commonly inclined somewhat on their stems, and may even dip beneath the leaves like *T. cernuum*. The sickening odor of the flowers, their longer stems, the darker color of the petals, and the longer stamens, will distinguish the species.

The remaining two of our list of seven are also somewhat closely related to each other. They are the little snowy wake-robin, *Trillium nivale*, of Riddell, and *Trillium undulatum*,


 TRILLIUM NIVALE
One-third natural size

Willdenow. The former is a brave little body, three inches or less in height for plant, flower and all, and it may be found blooming from the shallow soil of sun-exposed rocks early in March. It is not unusual to find it matching the pure white of its petals with that of the early spring snows. It blooms bravely on, and when the hepaticas peep forth they find that they are not the first to greet the returning sun. The other species is called the painted wake-robin, from the delicate pink penciling of the veins of the white petals. This is a much larger plant in every way, has sharper pointed leaves, and appears several weeks later than the snowy trillium. Nevertheless, it delights in the cool of early spring, and finds the lower temperatures by ranging farther north into British America, and by climbing higher along the slopes of the Alleghanies.

Besides the forms herein presented there are a few others found in the Gulf States and on the Pacific slope. In all the world only twenty species are recognized, so the United States is favored with a goodly share of them, having fourteen.

E. B. KNERR.

Kansas.

PESTIFEROUS PLANTS.

THE strawberry-raspberry, still advertised in many catalogues, may prove as dangerous as the Canada thistle. I planted some two years ago and it now threatens to choke out everything else in that part of the garden. If I can get rid of it in five years I shall be fortunate. The roots spread rapidly in all directions, sending up a dense growth of thorny stalks and leaves. Less than half a dozen berries have matured, but quite enough to show that they are entirely worthless as fruit. The dealers offer the plants at fifteen cents each, but if I could find ready sale for them at one cent each I could in a few years become a millionaire.

The Chinese Lantern plant is another which

once well established will be difficult to get rid of; the roots continue to grow and spread all winter, when not frozen up tight, and were uninjured by the severest weather ever known here. The lanterns—the only pretty portion—contain a great number of seeds which germinate very readily. So I conclude a few plants are quite enough.

Several years ago a neighbor felt a longing for dandelion greens, so he sent east for a few seeds to get a start. They now have a start of ten miles and are still going. So, as I said, it is well to carefully watch all plants that increase rapidly and not let them become a source of annoyance to ourselves or our neighbors.

KANSAS.



TRILLIUM ERYTHROCARPUM

One-half natural size

CAULIFLOWERS AND EGG PLANTS— HOW TO GROW THEM.

THERE are plenty of amateurs or home gardeners who think these are very difficult vegetables to grow to perfection at least. In respect to the first it must be borne in mind that while cauliflowers when young are not to be distinguished from cabbage, yet they are much tenderer than cabbage, and a degree of cold that does not affect young cabbage will readily destroy young cauliflowers.

The requirements of successful cauliflower growing are: first, good seed; second, good variety; third, a rich soil in all the essential elements of food. The cauliflower requires more moisture than cabbage. Plants should be made ready for setting out by the time it is safe to put them in the open ground, and the cultivation should be shallow and frequent. A half acre of good land will produce 2,500 heads easily. The Early Snowball is one of the leading varieties, but there are others just as good under other names. To produce the best results the plants should be transplanted at least twice from one frame to another before the final setting out in the

open. By this means all defective plants are sure to be rejected, and the crop if grown in well prepared, highly enriched soil, is almost sure to be profitable.

THE EGG PLANT.

The requirements here also are: first, fresh seed; second, good variety; and soil well prepared and enriched. The harrow and the roller should be freely used in preparing the soil. The surface soil to the depth of six inches should be well pulverized and then firmed with the roller, especially where it is a light, sandy soil. The rows should be three feet apart, and a plant every three feet in the row.

The flea-beetle is more destructive to young egg plants than to any other plant. So we always have a frame three by three or three by six feet, elevated some four or five feet above the ground, to grow the plants in. It is well worth this little extra trouble, as all know who have had experience in raising egg plants. The Improved New York Purple, or Spineless, is one of the best kinds, and even grown, stocky plants should be in readiness to set out in the open after the frosts are all over. Sow the seed in the elevated frames about six weeks before that time, and as soon as a third leaf is developed draw the young plants and reset in another frame. By watering and working, force them to a steady growth, so that when five or six leaves have been developed each plant has a mass of roots.

IN TRANSPLANTING

to the open, "puddle" the roots in a loblolly of cow manure and clay. Press the soil firmly to the roots and the plants will grow off promptly. If necessary, as may be easily determined, sprinkle the plants freely with clay dust or sifted ashes that have been tainted with kerosene oil. In a little while the plants will be out of the reach of insects. Frequent shallow cultivation will make the crop if the soil is in the condition it should be. The best crop of egg plants are made in soil freely supplied with decomposed vegetable matter (humus) with a liberal dressing of ammoniated mineral fertilizer. Anywhere from 12,000 to 25,000 eggs is the yield on good arable land.

ESSACE.

.

LANTANA MARSHALL McMAHON is of a deep red color shading to orange. It is much richer and handsomer than some of the commoner varieties.

THE BEST ANNUALS.

THE tempting sunny days of April often prove most treacherous to the enthusiast, and one is apt to move house plants out of doors, in an ecstasy over spring. After nursing the tender plants through the rigors of winter, the terrors of coal gas, and the ravages of pests, it is lamentable to lose them by sudden, smiting winds, and chill nights such as capricious April abounds in. In most of the north country it is best to keep plants indoors until the middle of May.

But although we may not set out our plants in April, nor plant seeds in beds, there are many things to do. To plant seed indoors in February is to wait long for germination, and risk chilling the seedlings. But to plant in April brings immediate success.

Where garden room is limited, one annual raised in profusion and perfection, is far superior to a mixture of any kind and all sorts jumbled together. The woman who has a shady spot should try pansies; the one who has a sunny soil, with more clay than richness, can have a profusion of nasturtiums. With a sunny rich soil, and plenty of water poppies are a signal, glorious success.

To those who have plenty of ground, sunny and rich as I have, I suggest these good satisfactory annuals: asters, snapdragon, bachelor buttons, balsams, four o'clocks, cosmos, fringed petunias, phlox, poppies, nasturtiums, mignonne, sweet alyssum, pansies and verbenas.

Lay aside the packets all except the asters, cosmos, snapdragon, pansies, petunias and verbenas. These can be sowed in the house in April, and by the middle of May will be large enough to transplant in the exact place one wishes them.

RAISING SEEDLINGS.

Raising seedlings in the house is not difficult but requires care. One must watch them every day. A south or west window in the dining room is an excellent place for a table to place the seed boxes upon. Old cigar boxes cut down, saucers to pots, or other shallow dishes, make excellent seed pans. The earth should be fine and mixed with sand to make it light. A good way to rid the earth of weed seeds is to heat it, or pour boiling water over it before it is used. Glass laid over the seed pan helps, but must be removed when the seedlings appear.

All these annuals are very vigorous and grow stocky. The pansies should be planted



One-half natural size

TRILLIUM SESSILE

in a bed by themselves, where they receive only the morning sun. Each plant should be set six inches away from another. Such a bed will look slightly bald at first, but the plants grow very large in a season.

Petunia seed is so fine that a spring rain will wash it out of existence in a bed outside, so I raise the plants in the window and transplant them on a wet day and give each seedling a lot of earth as I lift it.

Asters should be planted from six to twelve inches apart, according to varieties, in a bed by themselves, or as a border to a bed.]

Snapdragons grow into good sized bushes if given care, so should be planted accordingly. Verbenas grow over a large space, but cosmos makes a tall trim, tree.

When poppies are planted they should not be moved, but thinned out, so each one may have six or eight inches of room. Nasturtiums may be sown thickly.

Iowa.

GEORGINA G. SMITH.

* *
*

ASPARAGUS SPRENGERI is very pretty when in flower. The blossoms are small, star-shaped and pinkish white, springing from the axils of the leaves.

RAISING PLANTS FOR PROFIT.

I WONDER if my experience in this line will be of any help to would-be money-makers. For almost ten years I have endeavored to make a few dollars in this way, but have never yet been able to retire upon the profits of my industry. However, the work is pleasant and healthful, and I would have some flowers anyway, so I do not begrudge the time spent with appreciative and unappreciative would-be customers. I began the work from self-defense firstly, self-defense against the ubiquitous plant beggar, who toils not, but begs his plants in the springtime and lets them freeze in the winter. When I began, my stock in trade was ten large geraniums, assorted kinds, six coleus, and twelve begonias, assorted. In February I cut these plants all up into cuttings, which I started over a coal oil lamp in wet sand. I added to this collection two dollars' worth of seeds. These were pansies, verbenas, asters and Marguerite carnations. Afterwards I sowed sweet alyssum and mignonette. Constant care, sleepless nights and busy days brought all of these through. The first day of May I hung a modest little sign upon my front porch, stating that I had flowers for sale. I also inserted a card in our weekly paper to the same effect. The family laughed at me for my pains, but I had a customer before noon, and others soon came. It was so early that nothing made so good a showing as it should, but I sold all of my begonia cuttings in a few days. I had thirty of these, and at ten cents each I realized \$3.00. I immediately reinvested it in more begonias. I sold fifty geranium cuttings, twenty coleus, twenty-five dozen pansies, five dozen verbenas, two dozen sweet alyssum for bedding. My mignonette and Marguerite carnations I potted and sold in bloom. The asters sold well in the fall. I invested all of my earnings in stock, and from this I have succeeded in building up a nice little business. People in small towns love flowers quite as well, I think better, than in larger places, and are quite willing to pay a reasonable price for them. It brings a heartache sometimes to part with a plant that has become interesting to you, especially if some one gets it whom you know to be blind to its deeper beauties.

I buy every season several nice palms, Rex begonias, etc., at wholesale, and retail them, as something extra nice. I find no trouble in collecting money, for this business is generally with women, and they are strictly honest.

Pansies sell readily from the time they are an inch high. Geraniums are always in demand, and I find large numbers of folks who have as great a "craze" as myself for begonias. Something new and catchy must be added often to your stock to arouse interest. An occasional order of plants from a city greenhouse will add to the appearance of your stock and help to sell it. In addition to this you must keep up to date, read the floral magazines and cultivate your tongue. You must be able to diagnose the various ailments that attack your customers' plants and be able to convince them that such ailments were not of your making. You must never become angry, be always ready to give away cut flowers as a side help, and have backbone enough to allow people to convince you that your handsome Niveus or beautiful Queen bloomed out as a "button" chrysanthemum. They will attempt it. Anything to get dead plants replaced, "free, gratis, for nothing." But the work will grow on you, and you will find a delight in rolling out such melodious names as *Chænostema hispida*, *Bougainvillea glabra* *Sanderiana*, etc. I do not know of a pleasanter way of earning pin money, though I usually miss my dinners and most of my suppers through May and June. But the work brings you in contact with so many congenial spirits that you cannot help but enjoy it.

I also find that a profitable branch of the trade is in cut flowers. How an amateur can sell these to advantage, the kinds to grow, how to arrange them for sale, etc., maybe the MAGAZINE will give me space for at another time.

MRS. I. M. HAYS.

* * *

STARTING CHRYSANTHEMUMS.

In starting chrysanthemums from cuttings, which should be done this month, if not already, care should be taken to make the cuttings from strong shoots. The old plants should stand in a good light, and be kept free from insects. It is no difficult thing even in the window to root all the cuttings that may be needed. A small box standing in good light, containing sand or light soil, and a pane of glass to keep it partly covered for a few days at first, is all that is needed; a pot of soil with a tumbler will do as well. Be careful about using water, and remove the covering as soon as there is no tendency for the cuttings to wilt. Plants from cuttings are better than from rooted suckers.

ACTINIDIA

IF THE *Actinidia polygama* offered by Peter Henderson & Co., under the name of Silvery Sweet Vine, shows really the silvery variegation of the leaves, as mentioned in the February issue, on page 160, it is probably the true *A. polygama* or it may be *A. Kolomikta*. It is certainly not *Actinidia arguta* which has been sold for several years both in American and European nurseries as *A. polygama*.

is greenish yellow, sometimes with a reddish hue. The fruits of *A. polygama*, which I have not yet seen in a fresh state, are said to be canary yellow and considered not edible.

The handsome variegation of *Actinidia Kolomikta* and *A. polygama* does not appear on every plant, but seems to occur on male plants only and as it, moreover, appears but during the flowering time, there is probably,



Silver Sweet Vine

ACTINIDIA POLYGAMA

Actinidia arguta never shows any kind of variegation on the leaves which are dark green and glossy above, and of somewhat thickish texture, while those of *A. polygama* are rather thin, bright or yellowish green, and not glossy, but often sparingly beset with bristly hairs on the upper surface. *Actinidia arguta* is of much stronger and more vigorous growth, and in Japan it climbs to the top of the tallest trees, as Professor Sargent states in his *Forest Flora of Japan*. The fruits of this species are edible, similar in shape and size to a medium-sized, smooth gooseberry, and have a fig-like flavor, or somewhat like an overripe pear; the color

no doubt, that it bears some relation to the fertilization of the flowers by insects. The insects are attracted by the bright color of the silvery white spots of the leaves and visit those plants first, collecting in this way the pollen from the flowers of the staminate plants and transferring it to the non-variegated fertile plants which are visited afterwards. In this case, the highly-colored leaves take the place of the colored bracts which are developed on many other plants, for instance, *Poinsettia* and *Pinckneya*, and some *Salvias*, but I do not recall, at the moment, any plant which has colored bracts only on the staminate plants, or

which bears colored leaves on a part of the branch where no flowers appear, for the flowers of actinidia are borne only in the axils of the lower leaves of the young shoots, or sometimes on the old wood, while the variegated leaves are found only above the flowers on the middle portion of the branch. These leaves are developed shortly before the expanding of the flowers. There is a beautiful colored plate of a branch of *Actinidia Kolomikta* in *Revue Horticole*, 1898, p. 36, showing the handsomely spotted leaves, and a photograph of a whole plant is published in Möller's *Deutsche Gartner-Zeitung*, 1896, p. 397. The variegation occupies usually the upper half of the leaf only, sometimes it is confined to the tips, and but rarely extends over the whole leaf; first, the white spot is suffused with bright pink, and later becomes pale yellowish white.

Actinidia polygama and *A. Kolomikta* are very similar in regard to the foliage but may be easily distinguished by the pistillate flowers. In *A. polygama* the numerous stigmas spreading ray-like from the center are supported by a thick solid style, while in *A. Kolomikta* they are almost sessile on the top of the ovary, the very short style being hollow. A still better distinction may be found in the pith of the branches, which is solid in *A. polygama* and broken into thin plates like that of *Juglans* in *A. Kolomikta* and also in *A. arguta*. I am sorry that I was not able to mention this striking distinguishing character, which makes it easy even in winter time to distinguish these species, in my article on *Actinidia* in the *Cyclopedia of American Horticulture*, but I was informed of this distinction only a short time since, in a letter from Professor E. Koehne, an eminent German dendrologist, whose book on cultivated trees and shrubs, is the best I know of to introduce a student to a thorough botanical knowledge of the trees and shrubs in cultivation; it is unexcelled in clearness and accuracy.

There is still a third way to distinguish *Actinidia polygama* from the other species, and this is to show the plant to the cat and let her decide, for this species attracts cats in the same manner as valerian does. For years every plant which has been set out in the Arnold Arboretum has been destroyed by cats as soon as it was planted, until a frame was built around the plant and covered with chicken wire to keep out the cats. Visitors, not knowing the reason, usually wonder very much

what kind of wild plant this is, that it has to be kept in a cage, and whether it is liable to run away, or whether it is such a horribly poisonous plant.

As authority for the species, Planchon is usually quoted, but this is erroneous. Planchon never published any of the names under consideration. He only stated that the *Trochostigma* of Siebold and Zuccarini, under which name several of the species were first described, is synonymous with the *Actinidia* of Lindley, a genus founded earlier and therefore having the precedence. The first botanist who published the names, was Miquel in his *Prolusio Floræ Japonicæ*, 1866-1867 and therefore the citation of the author should read *Actinidia polygama* Miq. and *A. arguta* Miq., except *A. Kolomikta* of which Maximowicz is the author. In *Index Kewensis*, Franchet and Savatier are erroneously quoted as authors. Their book, however, containing these names was published several years later than that of Miquel.

ALFRED REHDER.

Jamaica Plain, Mass.

* *

THE CHRISTMAS ROSE OF OLD ENGLAND.

NOT a rose at all, but a hellebore, *H. niger*. It is a plant deserving larger recognition than is accorded to it, interesting from association with the past, and from its time and habit of bloom; and beautiful, both in foliage and flower.

The Christmas rose flourishes in cold and temperate climates. Its finest bloom is under the snow. Just outside of my window is a clump quite a quarter of a century old. It was first planted in an open, sunny spot, but failing to thrive was removed to this nook, sheltered by buildings on the south and west. Each spring, after removing the old growth, a good dressing of fine manure is applied. In summer heats liberal waterings are given, although the plant receives only the eastern sun. This plant has never been divided, cutting the root being injurious to the parent plant. In snowless winters a cold frame, improvised from the sides of a box, and a glazed sash, prolongs the beauty of the blossoms, by protection from the winds, etc. This plant seems without insect enemies. The best time for planting is the spring.

MISS ANNA CARPENTER.

Pennsylvania.



INTERIOR VIEW OF THE EXHIBITION HALL

MEETING OF THE AMERICAN CARNATION SOCIETY.

THE ninth annual meeting of the American Carnation Society at Buffalo, N. Y., February 15th and 16th, was a great success, competent judges pronouncing it one of the finest carnation shows ever held in this country. More than forty exhibitors took part, and over 150 vases of flowers were staged, some of them for exhibition only, others in competition for the various prizes offered.

Professor Bailey, in his *Cyclopedia of American Horticulture*, says that the carnation has been in cultivation more than 2,000 years, and that in 1597 Gerard wrote "To describe each new variety of carnation were to roll Sisyphus' stone or to number the sands." After attending this last meeting of the American Carnation Society one feels like adding his testimony to that of Gerard, for the display of already established favorites and the new aspirants for honors made a bewildering array of carnations of all sizes, from seedlings of the old-fashioned type to the crowning achievement of four inches across, in color varying from pure white to a deep, dusky crimson. The great bunches of fifty, and one hundred, blooms made a magnificent showing. Tracing the evolution of the carnation from the five-petaled clove pink to the very large double blossoms of the present time would be an interesting study, but the perpetual-flowering carnation, now grown so extensively for cut flowers, originated as a distinct race only as far back as 1840.

Viewing the immense blossoms of some recently introduced varieties, one wonders if the growers are striving to make them as large as sunflowers, or if they will be content with flowers a little less in diameter.

The great interest of the exhibition centered, naturally, in the carnation Mrs. Thomas W. Lawson. Almost the first inquiry of visitors was for the \$30,000 carnation, and it seemed to be unjversally admired, and the verdict favorable to it as a beautiful variety of a distinctly new shade. The blossoms are large and symmetrical, the color a rich, dark pink. The flowers stand up straight on strong stems, and it was noticed that they were just as fresh at the close of the second day's exhibition as when they were first staged. Its keeping qualities seemed beyond question. The Lawson was not entered in competition for a prize. Cut flowers of the Lawson sold at Christmas for \$3.00 per dozen, and now sell for \$2.50 per dozen.

No. 666, or the Three Sixes, the winner of the Lawson gold medal, rivaled the Lawson in interest, and was greatly admired. The flowers are white, splashed in the center of the petals with a beautiful shade of pink. The markings are different from those of any other variety, lending distinction to the flower. We did not hear a single unfavorable criticism. The entire stock of No. 666 is owned by Messrs. Dailedouze Brothers, who do not yet offer for sale either flowers or plants.

J. Whitcomb Riley was also greatly admired. The ground is white, lightly penciled with soft pink. The flowers are large and very fragrant. Mentally we made note of it, as a carnation we should like to have.

Mrs. George M. Bradt is a very fine flower, with white background and picotee-like markings of scarlet around the edge of petals.

General Maceo is the very darkest carnation yet produced, a rich, dusky crimson above, and deep maroon beneath. General Gomez is a fine bright crimson, and the new variety, Governor Roosevelt, is between Maceo and

good, each possessing some fine points. Genevieve Lord is a pleasing shade of light pink, and Morning Glory is a very pretty variety, a little darker and brighter than Daybreak. Enquirer is a particularly fine pink variety. The Syracuse, a new introduction, is a bright rose pink with deeply serrated petals. Opal, a delicate, light pink blossom, is a very pretty new variety.

No. 3 is a beautiful light pink blossom, shading to white toward edge of petals.

The Olympia rivaled Mrs. G. M. Bradt. The ground is a clear white, and the pencilings are of bright scarlet. Lady Minto is another of the same type with more white in the blossoms.

Adonis is a fine scarlet; Hector, also, had large flowers of a rich scarlet, but they did not stand up well. America was a duller color.

White Cloud still stands as a favorite white carnation, but Queen Louise, a new introduction, is very fine; also No. 550, and The Maine.

Two sports from Daybreak, each of distinct shade and both darker than the original, were very fine flowers.

Why are not yellow carnations pretty? I am very fond of yellow flowers, but I do not like yellow carnations; they are a disappointment. Mayor Pingree was the best of this color shown. A sport from the last named variety had a salmon ground with markings of deep pink, and did not resemble the original in any particular.

It is a question whether, in striving for large blossoms, the crowning beauty of fragrance is not becoming an extinct virtue in carnations. For myself, I would rather have smaller, and even less perfect flowers, if they had the old-time spicy, clove-pink odor.

Some carnations which were noticeably fragrant were: The Marquis, Melba, Genevieve Lord, Ethel Crocker, Jubilee, J. Whitcomb Riley, Gomez, White Cloud, and No. 3.

F. B.

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FOR WINDOWS which have the least sunshine, use begonias, primroses, ferns and palms. Chinese primroses do well at a north window.



THE \$30,000 CARNATION
MRS. THOMAS W. LAWSON

Gomez in shade. Governor Roosevelt, like its illustrious namesake, had many admirers.

Light pink carnations, like the Daybreak, have been prime favorites, but darker shades of pink seem to be coming into vogue. The Marquis is a very fine variety which has won many prizes. It is a true pink and very fragrant. Cut flowers of the Marquis sold at Christmas for \$3.00 per dozen, and are now \$2.50 per dozen.

Mrs. Bertram Lippincott is a beautiful shade of pink and a fine flower. Ethel Crocker, Mary Hill, Irene, and Lady VanHorn are all



CARNATION No. 666—"THE THREE SIXES"

A GREAT NATIONAL PARK IN THE SOUTH.

THE demoniacal little steam sawmills steadily eating away the hearts of our great forests, and the total disappearance of many beautiful shrubs and trees from the grounds around our homes, have, for a long time, made our hearts ache for some way to preserve them. Western North Carolina has an unequaled sylvia.

Prof. Gray stated that he saw a greater number of indigenous trees on a thirty-mile trip through this region than can be observed in a trip from Turkey to England, through Europe, or from the Atlantic coast to the Rocky Mountain plateau. America has but one such forest, and the Appalachian National Park Association, at a meeting lately held in Asheville, N. C., made a move toward inducing Congress to protect it, before it is too late. The idea is

to establish a great national park in this southern Appalachian region.

The highest mountains and the finest scenery in the whole Appalachian system lie in the heart of the Great Smoky and Black mountains, each lying partly in Tennessee and partly in North Carolina, all of which the memorial to be laid before Congress suggests should be included in the great park.

Forty-three mountains of 6,000 feet and more in altitude, loom upward in this region, and from their summits the eye often seeks vainly for some sign of man's habitation—or devastation!

The Park Association also claims that the eastern States are entitled to the reservation, there being no national park of this character east of the Yellowstone; nor is there a forest

reserve east of western Dakota. The Chickamauga National Park was made because of the historical interest investing its locality. It is very limited in area, and has none of the characteristics of the proposed Appalachian National Park. The location of this great park would make it national, indeed,—but twenty-four hours' ride from New York, Chicago, St. Louis and the Gulf States,—and therefore within easy reach of millions of people. Why have we been so sleepy as to neglect so long all effort to secure such a park? All honor to the Appalachian National Park Association!

L. GREENLEE.

* * *

WINDOW BOXES.

FOR many town and city dwellers the one form of gardening possible is that afforded by the use of window boxes.

The style of the box is a slight matter, as nearly every one would prefer to edge it with trailing plants, which would soon conceal it from view. The box must be strong, however, and be provided with holes for drainage, and be securely fastened in some way, preferably on iron brackets. Any good potting soil will answer, though it is well to have it quite rich, as the supply of earth, and consequently of nutriment, is limited. If plants like begonias, ferns, etc., be employed, an admixture of leaf-mold is advised, if procurable.

But whatever soil is used, or whatever plants are chosen, one thing is indispensable to success, especially if the position be a sunny one, —plenty of water, and again, plenty of water. Trellises for the sides and top are necessary if climbing plants are employed; and these are always to be recommended as they add so greatly to the grace and beauty of the whole effect. An effective support is a square frame attached to the top of the window in the form of an awning, to which strings or woven wire may be attached as a support for the vines. Various beautiful and picturesque effects will at once suggest themselves.

A charming arrangement was noticed last summer. The plants employed were nasturtiums only, and the entire cost could not have exceeded fifty cents. The box was of rough boards, evidently, strongly joined, and set upon a pair of iron brackets.

The box was covered with floor oilcloth, tacked on, and the design was such that it looked like tile work. The colors were cream and brown. A pine frame the width of the

window, and six inches across, was nailed to the top of the window for attaching the strings on which the vines were supported. The nasturtiums were of both the dwarf and climbing sorts.

A drapery of trailing nasturtiums fell over the edge of the box, and dwarf nasturtiums filled the center, and all were of the deepest, richest colors known to this flower. The nasturtiums that were trained up the supports were of lighter colors, lemon and orange, and cream. The middle strings had been loosened and the vines had been drawn back from the center to each side by strong strings; the whole appearance being a diamond-shaped aperture surrounded by a drapery of living green. The effect was equally charming from within and without.

Another window which had the sun in the morning and forenoon, but was shaded at midday, presented an equally lovely, though entirely different effect. Over the face of the box hung a drapery of tradescantia, of the variegated, green and white sort. At each corner spread a most graceful specimen of *Plumbago capensis alba*. The front center of the box was occupied by pansies, and at each side of them stood heliotropes in full bloom. The whole was arched by vines of *Cobæa scandens* whose purplish bells completed the symphony of cream and lavender.

Other windows might be described, but perhaps these two examples will prove sufficiently suggestive. In no place can taste and individuality be better displayed than in arranging window boxes.

The flowers and vines adapted for this form of gardening are very numerous, from the cheerful, floriferous single petunia, the seeds of which will cost five cents, to the most aristocratic and expensive, though hardly more beautiful, palms, dracænas, etc.

For sunny windows may be employed all sorts of geraniums, plumbagos, verbenas, phloxes, roses, *Impatiens Sultani*, *torenia*s, *lobelia*s, etc.

For a shaded location, use palms, ferns, begonias, pansies, foliage plants, etc. The different varieties of asparagus are very useful and ornamental here.

Morning glories made a fine screen for a window having an objectionable outlook. *Coleus* is very desirable, and so, too, are *mignonette*, sweet *alyssum*, etc.

Passifloras are charming climbers.

Massachusetts. MRS. W. A. CUTTING.



*They whom truth and wisdom lead
Can gather honey from a weed.*

—Cowper.

SWEET PEAS.

From a paper which the author, Mr. James T. Baker, has supplied, and which was read before the Farmers' Institute, at Langhorne, Pa., the following notes have been made. Mr. Baker is a commercial florist, raising sweet peas with other flowers for sale. His advice is based on repeated experiences.

"Of all the hundreds of varieties of sweet peas there are only two colors which I can grow for profit, pink and white.

FALL PLANTING.

"In planting sweet peas I would have the ground previously enriched and prepared in the fall. Be sure that the lay of the land will ensure perfect drainage, and, having thus selected the spot in the garden, about a month before the ground freezes for winter make a furrow about six inches deep and in that plant peas about every half inch apart and cover them with two or three inches of soil. The rest of the soil draw over the seed just before the ground freezes up for winter, and then, some time later, after the ground is frozen hard, I would give the pea row a good top dressing of some coarse stable manure, just as you would a strawberry bed, in order to assist in protecting the young plants and help to prevent the ground from thaw and freeze. The seed must not be planted too early nor too late; I generally plant about the end of October which will just give the plants time to become established in their new quarters. Care must be taken that too much stable manure is not used, or you will burn off the sprouts of the young plants and they will be destroyed. To plant peas in this manner will result in giving you well-rooted plants which will repay you for the labor bestowed with an abundance of very early sweet peas."

SPRING PLANTING.

Spring planting he says is all right too, where it is done early. But the danger is that the warm days will come before the ground can be prepared, "and then when we do plant the seed they grow immediately, and the result generally is tall, sickly, yellow-leaved plants and poor quality of flowers."

SUPPORT FOR THE VINES.

The best support for pea vines is brush, two to six feet tall, set in the rows about six inches apart. "If the pea vines could speak they would invariably ask for it." If brush cannot be obtained poultry netting is advised, one foot or eighteen inches wide, fastened lengthways on six-foot poles set four or five feet apart.

DISTANCE FOR PLANTING.

"A couple of years ago a lady in our village showed me her sweet peas, which were up a few inches and had been planted, she said, according to the instructions received

from a seedsman's catalogue; and they were actually planted about 100 to the foot in the row! Now, you may do just as you please about it; but you take a rod of garden and plant your peas as thick as you please, and I will take the same length of row and plant my peas four to six inches apart and the flowers on my vines will be nearer perfect than those on the vines planted closer together. A good color, three or four flowers on a stem, and a long stem are essential. It is next to impossible to produce these three requisites when the vines are crowded."

WATERING AND SYRINGING.

"I must not omit that the sweet pea is a great drinker. If it is planted in a light soil it must be watered frequently, and also be syringed early in the morning on clear days. There is an insect which will destroy your vines if you do not syringe them." Especially syringe on the under sides of the leaves.

PICKING THE FLOWERS.

Pick the flowers every day in order to prolong the season and keep the vines vigorous. Allowing the seeds to mature weakens the plants and injures their vitality. Always pick the flowers in the evening, cutting the stems as long as possible.

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SWEET PEA RECORD.

Row of sweet peas sixty feet in length. Ground prepared April 6th. Dug eighteen inches deep. Eight inches of barnyard manure put in the trench and covered with five inches of soil.

Trench was thoroughly drenched with warm water before sowing the seeds. Seeds covered four inches deep with finely pulverized soil. For eight weeks after planting there was no rain. Plants began to come up five weeks after sowing, "seemingly with great unwillingness to leave their snug nest and try the upper air."

It was not till the last of May that a fair row of them showed, and even then there were some bare spots.

Plants about eighteen inches high the third week in June, when a few flowers began to appear. I picked twelve and brought them in—in a most triumphant manner. The next day I picked twenty-five—and from that time till the sharp freeze of October 2d and 3d there was a great profusion of beauty, and our sweet peas were the wonder and admiration of the town.

Two days were eminently noticeable for yielding over 800 each day, the highest

number picked at one time being 847. Many of the stems had four flowers, all remarkably large and fine.

Memorandum was made each day of the number gathered, except a few picked by other members of the family. I was surprised when I added up the list, carefully noted each day. The amount during the season was 19,789. We sent them everywhere, supplied the church, gladdened many sick, sent them to friends and neighbors, and our rooms were sweet with their delicate fragrance as long as they lasted.

Patterson, N. Y.

L. A. S.

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WATER LILIES IN TUBS.

A few years since, the Water Lily was cultivated only in a few botanical gardens, and was universally supposed to be manageable only by the specialist. But year by year it has outgrown these quarters and proves itself to be a plant for the million. Any person possessing water and a two gallon pail may have aquatic plants and flowers. Water hyacinths, water poppies, parrot's feather and even the miniature nymphæas may be grown in a vessel (wooden preferred) having a superficial area of one square foot. Tubs the size of oil or whisky barrels, sawed in two, make suitable vessels for a variety of nymphæas and lotuses. A most pleasant addition to a lawn, noticed lately, was a group of four tubs,—three of them placed in a triangle, their inner edges supporting the fourth—making a pyramid. In the upper or central tub was a lotus, its flowers and umbrella-like leaves towering up several feet high, while parrot's feather was trailing down over the sides almost completely hiding the tub. In the lower tubs were red, white and blue nymphæas with some other aquatics, while around the margins a few rocks were placed, and interspersed with moisture loving plants—the whole making a mound of fresh, bright green foliage and brilliant colored flowers, all summer. Tubs, pails or casks for water lilies should be filled two-thirds full of good, rich loam, the roots planted two inches deep, then be given a warm sunny place, and kept full of pure water. At frost the water may be poured off, and the tubs carried over winter in a warm cellar or under the benches of a greenhouse.

GEORGE B. MOULDER.

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EVERYONE SHOULD have a cold frame to use in the spring.

OKRA.

This is a vegetable that is not nearly as well known as it should be. I lived in central Kansas from 1872 until 1889 and never did I see any of the plant grown but once; that was when I was a child and had a few plants in my flower bed, for its flowers. After I came here I found it in almost every garden. Some have many plants, and others but few, but no garden is thought to be a good one without at least a few of these plants in it. The plant produces a large amount of edible fruit with but very little care. Last year one plant came up of itself in my garden near a row of grape vines. I hoed it but twice, and it had no other cultivation.

It grew over eight feet tall and threw out branches in all directions until it was considerably more in circumference than in height, and it produced so many pods that I gathered them from it to cook nearly every day during the whole summer. Okra is liked very much by those who once learn to eat it.

The pods are the part eaten, and should be cut while tender. They grow in about three or four days' time. To cook them they may be placed on top of boiling cabbage, beans or even potatoes. It cooks very quickly and should be served hot with plenty of salt and pepper and butter, although it is good without butter. It can be sliced up and fried by first salting, then dipping in egg and cracker crumbs. It can be boiled and then fried. I have never tried pickling it, but it is liked that way too.

W. M. R.

Tennessee.

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EGG PLANT.

Have you ever raised the egg plant? If not, you have deprived yourself of a great luxury. I admit that, possibly, it is necessary to acquire a taste for this vegetable, but that is very easily done.

Mr. Vick tells an amusing story of his experience in that way. He had always persisted that he did not like egg plant, and no persuasion could induce him to try it in his own home. Last summer, when taking dinner with Mr. W. Atlee Burpee, at Fordhook, Pa., he ate heartily of one particular dish to which he was helped. Mr. Burpee asked if he would have some more egg plant, "Oh, no!" said Mr. Vick, "I never eat egg plant." This statement brought out the fact that the dish which he had especially enjoyed was of that much

despised vegetable. Since that time, Mr. Vick has gladly welcomed the egg plant to his own table, and in answer to his request Mrs. Burpee has kindly furnished the recipe by which it was prepared in such an appetizing way. It is as follows:

Cut in thin slices, pare, and sprinkle each piece with salt; press out all juice by placing between two plates with a flat-iron on top. Dip in cracker dust, or bread crumbs, and egg, and then fry in lard.

Egg plants are not difficult to raise, only care is necessary in transplanting, which should not be done until danger from frost is over. The Improved New York Purple is a favorite variety.

F. B.

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CHRYSANTHEMUMS FOR EVERYBODY

Years ago, hardy chrysanthemums, under the name of *Artemisia*s, were common in flower gardens. They were mostly of a pinkish-lavender tint, often semi-double, and they were generally taken up in the fall to bloom in the house.

Now, hardy chrysanthemums are rarely seen, except in the old-fashioned gardens, or door-yards, yet they are among the most desirable of late-flowering plants, coming into bloom even later than the anemones, and lasting until severe freezing weather, giving a cheering glow of color in the drear November days. One lady of our acquaintance always remembers her friends with beautiful bouquets on Thanksgiving day, and I have often taken blossoms of the small, white-flowered varieties fresh from under the snow.

The hardy chrysanthemums are easy of cultivation, requiring no special care, and plants can be obtained of most florists in named varieties of various colors, yellow, pink, lavender, red, and white, including pompon, medium, and large-flowered sorts. The blossoms are not as large and showy as those we see in the greenhouses and florists' windows, but some of the newer varieties are of good size and beautiful colors. As cut flowers they keep fresh a long time. The yellow varieties are the most showy, and are more frequently seen in gardens than other colors.

In the illustration given, several varieties are represented, the colors being white, yellow, a sort of pinkish lavender, and red. The flowers were obtained from an attractive, old-fashioned garden where they had been growing for years without any particular care. The

fine, large clumps were full of flowers and made a beautiful showing.

There is no reason why the hardy chrysanthemums should not be generally grown, and I hope to see them in many gardens in the coming years.

F. B.



A VASE OF
HARDY CHRYSANTHEMUMS

EARLY FLOWERING SHRUBS.

Some good early flowering shrubs are *Daphne mezereum*, *Cydonia Japonica* (flowering quince), *Kerria Japonica*, *Prunus triloba*, lilacs, forsythia, snowball, both the common and the Japanese varieties, *deutzias*, *Spirea arguta*, *S. prunifolia* fl. pl., *S. Van Houttei*, *S. lanceolata* and *Spirea Anthony Waterer*, *syringa* and *wistaria*.

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NOTHING CAN be sweeter than *Jasminum grandiflorum*.

THE ACTINIDIAS.

Our readers we are sure will welcome the satisfactory account on a previous page, of the Actinidias, which Mr. Alfred Rehder has kindly presented for publication. For the engraving, on page 199, we are indebted to the courtesy of Clark & Co., of Amherst, Mass., who, apparently, are the introducers to the trade of the true *A. polygama*. Their plants, it appears from their catalogue, have been propagated from plants which for several years have been growing at the home of Professor William P. Brooks, trained on his house. The following account in the circular which the above named firm sends out in relation to *A. polygama*, and which they call Silver-sweet vine, gives some information not found elsewhere:

The foliage on the ends of the flowering shoots is of a silvery white color, giving the whole vine from a little distance the appearance of being covered with large white flowers blooming among its bright green leaves. The effect is very marked and beautiful. The flowers, which appear in this latitude about the middle of June, lasting from two to three weeks, are creamy white in color with numerous stamens with bright yellow anthers, and resemble the lily of the valley in fragrance.

The foliage is almost absolutely free from insect pests, and the whole vine throughout the entire season remarkably clean and attractive. The growth is rapid and vigorous, but less rampant than that of *Actinidia arguta*, which is the true name of the variety that has been heretofore commonly sold as *A. polygama*. The silver-sweet vine will be found far more manageable than the other species.

The two original vines (male plants), from which the entire stock of plants offered for sale has been propagated, were selected from the woods of Japan, on account of the marked beauty of their foliage, by Prof. William P. Brooks, of Amherst, Massachusetts, who, for twelve years was in the employment of the Japanese Government at Sapporo.

The two original plants have been growing in their present location in Amherst for the last ten years, and, without any protection, withstood the exceedingly trying winter of 1898-1899 uninjured. This new climber is especially suited for planting about buildings, to run over piazzas and arbors, or in clumps on lawns or parks, as it is easily made to cover either shrubs or iron supports with short cross-arms, assuming an umbrella-like form, the tips trailing to the ground.

While the vines are small they should be protected, as cats will eat the leaves and tender shoots as they do catnip.

In correspondence with Professor Brooks other interesting information has been received. Quoting from one of his letters, is the following in relation to the fruit of *Actinidia arguta*, and, also, that of the silver-sweet vine:

The fruit (*A. arguta*) is of larger size and of a green color, sometimes with a little blush when ripe. This fruit I have known and eaten abundantly almost every year for the last twenty-three or four years, having used it in large quantities in Japan from 1877 to 1888, and for the last eight or nine years having obtained it here on our college grounds and from my friend, Mr. O. B. Hadwin, of Worcester. The members of my family are all exceedingly fond of this fruit, and we find it wholesome to a very remarkable degree, tending to correct a constipated habit far more effectively than any other fruit I know, much exceeding either the fig or the date in that respect. We use it fresh, succeeding in keeping it as a rule for two or three months, and preserve

it in Mason jars in the same manner as that employed in preserving our common fruits, though entirely without sugar.

The fruit of the Silver-sweet vine is smaller and has no edible value, being of a reddish-yellow color.

Referring to the Silver-sweet vine, *A. polygama*, he says:

It is, in my opinion, far more beautiful than the species *arguta*. The latter, however, will sometime come to be highly valued for its fruit. This will not be the case with the other.

It was mentioned last month that the Silver-sweet vine was offered by Peter Henderson & Co., under the name of Silvery-sweet vine. From the new catalogue of Ellwanger & Barry, of this city, it appears that they, also, offer the plant, using the name Silver-sweet vine, the same as Clark & Co.

One thing in connection with these plants is not quite clear. Mr. Rehder in his communication states that the variegation of the leaves "occurs on male plants only." The account of the plants trained on Professor Brook's house, as given in the circular of Clark & Co., and which has been quoted above, also refers to them as male plants. Now the specific name, *polygama*, indicates a plant which bears perfect flowers as well as some flowers which are pistillate and others that are staminate. If these plants are truly polygamous they should be fruit bearing.

A. arguta is self-fertilizing for, in response to an inquiry, Ellwanger & Barry say: "We have an old vine of the *Actinidia* (*arguta*) which blooms and fruits quite freely." So, also, in the very complete article on *A. Kolumikta*, given in the *Revue Horticole*, and to which Mr. Rehder refers in his communication there is no reference to the plants being either monœcious or diœceous. It seems strangely inconsistent that the term *polygama*, as a specific name, should have been applied to a species which is apparently diœcious, according to the writers mentioned. C. W. S.

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SUTTON BEAUTY APPLE.

A letter from Mr. J. S. Woodward, Lockport, N. Y., the veteran fruit-grower and horticulturist, contains the following note in regard to the Sutton Beauty apple:

"I am very much pleased with the growth of tree and foliage. In leaf and character of wood it much resembles Duchess of Oldenburg, having short-jointed, heavy limbs with very close, hard-grained wood. Our trees are only four or five years old, top-grafted on old trees, but they appear very productive, and the fruit is as large as the Baldwin, of a bright red color, firm grained and full as good quality as Baldwin, and I think better. We shall graft more of them this spring.

PRUNING CLEMATIS.

Pruning clematis is perhaps the only point about their cultivation that requires special treatment. The sections require separate treatment. That popular variety, Jackmani, requires close annual pruning, as the blossoms are produced on the current year's shoots. The white form of Jackmani requires the same treatment, and so do the following varieties: Star of India, reddish violet purple, with red bars; Rubella, velvety claret; Lilacina floribunda, pale grey lilac; Tunbridgensis, bluish purple; Flammula, small white blossoms.

Varieties of the lanuginosa section produce their blooms from the previous season's growth, therefore require but little pruning. This section includes Alba magna, pure white, purplish brown anthers; Duchess of Teck, pure white, delicate mauve bar when first opening; Lady Caroline Nevill, blush, mauve bars; Grand Duchess, white, flushed rose; Henryi, creamy white; Duchess of Albany, bright pink, deeper down the center, softening to lilac pink round the margin of the petals; Mrs. Hope, deep lavender; Mme. Van Houtte, white; Louis Van Houtte, deep violet purple, with darker veins; Albert Victor, deep lavender.

The florida and patens section should be left untouched. Amongst these are Duchess of Edinburgh, double white, free, vigorous and fragrant; John Gould Veitch, lavender-blue; Devoniensis, bright azure blue; Miss Bateman, white, chocolate anthers; Sir Garnet Wolsley, pale blue, plum-red bar; Mrs. Quilter, pure white; Standishii, lavender-blue; Mrs. S. C. Boker, pink.—*B. in the Garden.*

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THE EDELWEISS.

A reproduction by photograph of a celebrated painting, by A. Seifert, called the Edelweiss is here shown. The head of a young girl is wreathed with the Swiss national flower. This flower, the "White Jewel," is dear to every Switzer. With the Swiss it is not only the national flower, but it expresses the tenderest sentiments when offered and received by young persons. This plant, known botanically as *Leontopodium alpinum*, is a native of the Swiss Alps where it has been so persistently hunted by flower gatherers and tourists that the government has passed and put in force laws regulating its collection, in order to prevent its entire extermination. The plant also grows in other mountainous

regions of Europe, and has also been called the "Immortelle of the Snows." The form of the flower is well represented in the picture though much reduced in size, for it measures about two inches across.

This plant is not particularly difficult to raise and is propagated both by seeds and division of the roots. It is a perennial growing from from five to eight inches in height, blooming the second year from seed. Plants can be started in the house or greenhouse and transplanted to a dry cool spot with a northern exposure, or it does well on the north side of a rockery.



From a painting by A. Seifert

EDELWEISS

BRANCHING ASTER.

Last year bought a packet of Vick's Branching Aster and I raised 100 plants out of the package; planted about 200 that were raised from seed saved the previous year. Planted them rather close, kept them growing from start to finish. When any of them showed blight pulled them up, root and branch. Cut about 2,000 blossoms and saved some of the best for seed.

J. C. S.

Pennsylvania.

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SCHIZANTHUS blooms well as a pot plant, and the flowers resemble orchids.

THE SPRING PLANTING.

The first thing which the planter, intoxicated with the returning spring, usually thinks of doing is to plant seeds of the plants which he likes. There are comparatively few who think first of the place in which they should plant them. That is to say, flowers have two general purposes or values: one is their intrinsic value—the interest which they have as separate and individual objects; another is the value which they have as a part of the garden or landscape picture. The best results in flower-growing are secured when the plants are made to fulfill both these requirements. That is, one may have cannas and have a picture at the same time; but he cannot do this if he plants his cannas in a hole in the front yard. If they are placed at one side of the area, against a building, or in some other position in which they have relation to surrounding objects, their effect as flowers will be just as good, and their effect as a part of the picture will be much better. All the parts of a well-ordered home yard should have relations one to another; they should all be parts of one general scheme or design. In the common yard the various objects have no relation to each other; and one object is quite as likely to detract from the other as to add to its effectiveness.

The geranium bed in the front yard is one of the commonest of the home-made blunders. The plants are usually wintered over in the cellar, and in the spring the old stocks, stiff and nearly lifeless, are planted in a carefully-made bed in the lawn, which is laboriously cut in the form of a circle, heart, star, or other fanciful design. The hole in the sod spoils the lawn; it breaks up its continuity and makes the place fidgety. The old plants do not start into growth at once. With care and much water, they finally throw out a few weak leaves at the top, and by midsummer, or later, they will have begun to bloom. In the meantime the chickens will have scattered the dirt out of the bed and the housewife will have been obliged to drive a stockade of sticks outside the area or to have enclosed it with wire netting. The place, therefore, becomes an enclosure in which the geranium plants are small features. Late in summer the plants may have sufficiently recovered to make a fairly good display and to cover perhaps two-thirds of the surface. After three or four weeks of such satisfaction, frost comes; and

then for six months the person has a hole in the ground.

There is no possible objection to geraniums; but the geranium plants should be good, and they should be in place.

In the making of a flower garden, and of any other garden, one should place his main reliance upon a few well-tried and well-liked things. Sow these things with a free hand. They will give character to the place. The person knows that they will not fail. Then, for the purpose of experimenting, put in incidental patches here and there of the new things. They are the little personal touches to the place. They still have interest because they are new, and one learns what they are worth. They are rare and therefore are in keeping when their numbers are few. But if one sows poppies or sweet peas or phlox or petunias or pinks, or any other of the old-time favorites, let him sow them liberally, so that their color will light up the place and there will be enough to pick and yet not destroy the plantation. Two or three pinks are scarcely worth the while in a flower border; but one hundred are lots of fun. For the main planting, choose seeds of the well-tried varieties. These are the varieties which do not need glowing descriptions. The shorter the description the surer the variety.

If one wants flowers for flowers' sake and merely to pick and to use for decorating, then have the flower garden at one side or in the rear, and laid out in regular fashion as the vegetable garden is; but if he wants to ornament a place, then put the plantations in front of the shrubbery borders or near the dwelling, or in such other place that they will stand in relation and incidental to the larger structural features of the area.

It is well to start the seeds of all common flowers in boxes in the house. Their season may be hastened in this way and thereby extended. It is well to make a later sowing in the open ground. But the main blooming of any plants should be arranged to come at that season in which it naturally reaches its greatest perfection. For example, the heaviest bloom of China asters should be reserved for September because it is essentially a fall flower. Plants are sometimes out of place when they are out of season.

L. H. BAILEY.

Cornell University.

GILBERTIANA.

LYCHNIS VISCARIA SPLENDENS PLENA.—All who are looking for first class plants should plant this lovely perennial. It is perfectly hardy, and once established is good for indefinite years. It is of the pink family, and like some of its relatives has evergreen foliage; long, smooth, narrow leaves rising directly from the root, cover the ground with a mat of green in winter.

There is no attempt of the plant to form seeds, nor does it spread much from the root if left to itself. It might, no doubt, be increased by dividing the root, but this I never have tried. In early spring there is a growth of fresh leaves, and soon a number of slender flower stems arise, a foot or more high, bearing many rosy pink, double flowers which grow lighter toward their centers. The base of the spike has the largest flowers. The stems are hardly stout enough to sustain the weight of bloom, especially in wet weather.

Looking out upon the garden after an overnight shower the red spikes are missed from their place, and on examination they are found lying prostrate, nor can they rise again without help. Therefore they should be supported in some way before they fall. These limpsy stalks are the only drawback developed, in my experience, and we may suppose the single flowered form had less trouble in this respect. I would greatly like to possess this plant, if I knew where to find it; the doubling of flowers is a doubtful improvement in many cases, in my opinion, and this is one of them.

CLEMATIS DAVIDIANA.—Several years ago I set a mailing plant of this species which is a bush-formed or shrubby clematis growing very stiff and erect. It did very well the first season, getting over a foot high, and flowering quite freely. But the next spring it was dead—winter killed to all appearance, though there may have been another reason, since it is said to be hardy. But I find many a plant hardy on Long Island, and elsewhere, to be tender on my soil.

The flowers have four long, narrow, pale blue sepals, pretty enough so long as they last. But after a day or two they faded to a dead-leaf color and remained without withering. New flowers in long succession came forth and faded until the clusters of bloom were more brown than blue, which gave a general effect not at all dazzling. Possibly this was due to some defect of soil or season. I have had no further experience. The foliage is strong and

good, and the plant is interesting from its bush form among so many vines, but it seems a pale affair to me besides its congeners paniculata, Jackmanni, Henryi, and all the rest.

E. S. GILBERT.



A DESIGN IN CHRYSANTHEMUMS

A WHITE GLOIRE DE LORRAINE.

What is called a white variety of Begonia Gloire de Lorraine, called Caledonia, is announced from Scotland. We have not seen a plain statement whether this new comer is a sport from Gloire de Lorraine or a seedling. It is said to resemble the latter plant in foliage, habit of growth and blooming, and in all respects excepting the color of the flowers which is a pure, ivory-white.

* * *

A DESIGN IN CHRYSANTHEMUMS.

Prize Design.—The illustration on this page shows a design in chrysanthemums, made by Otto Fehrlin, Galveston, Texas, which was a prize winner at the Galveston, Texas, Flower Show, November 14th and 15th, 1899. It was entered in competition with eight other floral pieces for the "Best Emblem or Design made of Chrysanthemum Blooms," and the successful competitor was awarded a premium of ten dollars.

SUCCESS WITH SWEET PEAS.

A correspondent writes us as follows: "Year before last I purchased two five cent packets of mixed sweet peas and planted them in four rows in clay soil. Not that I thought clay soil was the right kind to plant in, but simply because the spot was unoccupied. Before the season was over I had cut several bushels of the beautiful, fragrant blossoms.

I resolved to save my own seed and go into the sweet pea business. I did so and saved about two quarts of seed, and last year off a piece of ground about thirty-six feet square I sold thousands of blossoms and made \$25.00.

I have again saved seed, and abundance of it, and hope to make \$50.00 this year. I shall raise other flowers the coming season, and if my plan is a success my place shall be known as the "Sweet Pea Farm."

Iowa.

MRS. C. M. S.

* * *

HARDINESS OF PAMPAS GRASS.

In February MAGAZINE, page 144, E. S. Gilbert refers to an article of mine of 1890, in which he understands me to pronounce the pampas grass entirely hardy in Southwestern Missouri. Whereupon he says:

Now, in the last number she says the mercury last winter went down to 16° or 18° below zero, and is likely to sink to 10° or 12° almost any year. Does she mean to say that the pampas grass will endure all this cold? If so, I will set it next spring, for I seldom see any lower mercury.

I have written less clearly than I have intended, or I should not have given the impression that the mercury "is likely to sink to -10° or -12° almost any year." I have seen it as low as 12° below zero but three seasons of the twenty-two years I have lived here. Usually the lowest cold registers 1° to 6° below zero.

Our pampas grass went safely through one of these three cold seasons. One was before its day. The last cold year, 1899, the coldest winter ever known here, finished up every clump of pampas grass in our town, save one, that was one of ours that stood ten feet from the south wall of our house, in a nook quite sheltered from cold north winds. This clump was badly injured, but came out all right in the end. It had been given no protection in the least. It endured a cold of at least 16° below zero.

It is a hobby with me to plant all doubtfully hardy things in the shelter of a building or within the windbreak of a shrubbery belt. If E. S. Gilbert will adopt my hobby, and in addition mulch the ground heavily over winter,

then use his barrel to cover the plant itself, I see no reason that his pampas grass should not thrive. In a sheltered location, an unprotected but vigorous clump will endure as low as -12° in safety. A weak plant, or one in the open, will not endure above 5° or 6° below zero.

LORA S. LAMANCE.

* * *

PORTULACA IN DRY, HOT PLACES.

A friend has shown us a letter from one of his correspondents, a zealous amateur gardener and plant grower, wherein he stated his experience with the portulaca. Before his grounds were supplied with water, or his trees and shrubs had attained much size so as to cast much shade, he had beds of beautiful portulacas, never failing with them. When the grounds were supplied with water from the water works, and a sprinkler was introduced to water the plants, the portulaca beds necessarily received their share of the water. The result was that these beds were no longer satisfactory, and as the trees were also supplying some shade to the ground it was found necessary to abandon the location and find a dry, sunny spot for the portulacas, and never allow them any artificial watering. This was learning by experience.

For the last fifty years our horticultural journals and flower papers and seedsmen's catalogues have told the same story, and the portulaca has been called a little salamander, because no piece of ground is too dry for it, and no sunshine too hot.

* * *

THE SUNFLOWER AS A PROFITABLE CROP.

We learn from European journals that the cultivation of the common sunflower, *Helianthus annuus*, has been seriously undertaken at Tetlow, Germany, for economic uses. The pith of the plant can be employed for some purposes in the place of cork; the leaves stored in silos serve for cattle fodder; the bark is used in the manufacture of paper; and the seeds supply oil.

The culture of this plant for oil has been practiced for a considerable time, and to quite an extent in Russia, Egypt and India, and on a smaller scale in Italy, Austria and Turkey.

In this country the extensive cultivation of this crop in the State of Kansas has been a subject entertained in recent years by shrewd business men. Kansas is known as the sunflower State, the plant being indigenous there,

and so far as environment is concerned that region is, no doubt, wholly favorable to the successful culture of the plant. For the production of oil the plant would in this country have the competition of cotton seed. Whether the woody fibre may prove to be of value as paper material will depend on its own merits and on the scarcity of other vegetation suitable for this purpose.

* *

THE FIRST BEE WORK.

"Come and see the bees, they are gathering pollen for the first time this spring," called my friend from the bee-garden.

"Where do you suppose they get it," I asked, as we watched them drop upon the alighting board loaded with yellow and green pollen.

"Possibly from the pussy-willows" he answered. I clapped my hands saying, "I know, the hepaticas are in bloom—we must go to the woods today."

And there they were, listening to the robins and blue birds, my beautiful, fragrant hepaticas, singly and in clusters, pink, blue, and white. Amidst the brown leaves, beside moss-covered logs, nestled by the gnarled roots of trees, down the banks of the creek in the mosses to the water's edge, oftentimes mirrored in the water. There too were our bees happily humming and gathering pollen.

Michigan.

O. E. C.

* *

THE DISH RAG GOURD.

One of the most odd-looking pear trees stood in my garden last summer. This tree, having failed to put out leaves of its own, Dish Rag gourds were planted around it, which in a short time completely covered the tree with beautiful dark green foliage and the brightest yellow flowers imaginable, as large as morning glories. Later in the season, the odd-looking gourds hung from every limb, some of them nearly two feet in length. While the garden contained many plants that assisted in making the place ornamental and interesting, nothing attracted quite so much attention as this tree with its borrowed foliage and fruit. Not only is the Dish Rag gourd one of the most ornamental vines, but the interior membrane of the fully matured gourd is a very useful article. This membrane is equally as durable as a sponge, and for many purposes superior; for washing hands or cleaning flower pots nothing is better. EDWIN H. RIEHL.

PRUNING BLACKBERRY AND RASPBERRY.

Pruning is divided into two seasons, summer and winter. Summer pruning consists in topping the growing canes when they reach the height of eighteen inches to two feet. The purpose of this is two fold, inasmuch as this process will induce the stems to grow more stocky, set more laterals, and develop larger heads, and thereby produce more fruit.

This process applies to all kinds of blackberries and of either black or red raspberries. Blackberries and raspberries produce fruit on the new wood, each year, but the same stalks gives but one crop of fruit. Thus we learn that it is proper and important to cut out all old wood, and thin down all new wood soon after the close of the fruiting season; but this pruning can and may be done any time during the fall or winter when there is no frost in the wood.

S. H. LINTON.

Missouri.

* *

THE WINTER BERRY.

ILEX VERTICILLATA.—This fine shrub which is so nearly related to the hollies that we might call it the deciduous holly, deserves all the commendation given it in the *MAGAZINE* for February. It is dioecious, or nearly so, and many large patches of it never bear any berries. Some bushes are polygamous and will fertilize themselves, perhaps all the berry bearing clumps do so. The sterile bushes have whitish, fragrant flowers by the million, which are greatly liked by bees; this form is a good shrub, but if you are planting for berries it will disappoint you. Therefore, be sure of your bushes before you transplant them.

New York.


E. S. GILBERT.

* *

EARTHING UP CELERY.

A very good note in regard to this operation is made by a writer in a late number of the *Gardeners' Chronicle*: A simple method of keeping the stalks close while earthing them up consists in running a string from end to end of each row, binding, without however tying, each plant with the string, and securing each end to a stick to keep it tight. A long row can be tied in this way in a few minutes. When the earthing up is finished, the string is drawn out and used for another.

* *

A  on the wrapper of the *MAGAZINE* means your subscription expires this month. Please renew promptly.



NATURE STUDIES FOR YOUNG PEOPLE.

Go forth under the open sky and list to
Nature's teachings.

—Bryant.

THE COMING OF THE BIRDS.

"I know the pretty almanac
Of the punctual coming-back
On their due days, of the birds."

—Emerson.



THESE are busy days for
the Volunteers.

A large portion of the
bird-world is now en-
gaged in migration. Do
you know what the word
migration means? I

shall tell the younger ones. With the birds it
means the journey they take to raise their
little ones in safety, and where there is plenty
of food. We will divide birds into four classes:

Permanent residents, those that stay all the
year round.

Summer residents, those that stay with us
during the summer.

Winter residents, those that come down from
the north, a small class, and

Migrants, those that stop only for a day or
two in their journey to the north.

The migrations take place twice a year,
spring and fall. Think of a little bird no
longer than your finger, flying all the way from
South America to Greenland. Look on your
map and gain some idea of this great distance.

Birds have a wonderful instinct which leads
them to return to the neighborhood of their
birth; they have regular routes of travel, they
prefer river valleys and coast lines, for they
must be within reach of food and water.

Warblers, wrens, vireos, and thrushes, timid
birds of feeble flight, choose the night in which
to make their long journeys, resting and feed-
ing by day.

Bold, fearless birds, strong of wing, like our
friend robin, and the blackbirds and orioles,
fly by day. They do not care for concealment,
and rest where food and water are plenty.

Those birds whose life is largely spent on
the wing, that feed on insects which they catch
flying, these birds fly both by day and night,
and accomplish their long journeys in a very
short space of time. Hawks, swifts and swal-
lows belong here.

The spring migration
seems like the march of a
great army. Rank on rank
they come; the dates of
their arrival vary very little
from one year to another.
Those birds we see first are
those whose winter homes
are not far south of us.



The robin and the blue bird, the red-winged
black bird and the grackles, these are the
first. The male birds come ahead, — perhaps
because they are stronger. How do you sup-
pose the little mother birds know how to find
their mates? No one can tell.

Early in April look about for the purple
finch. The sparrows come this month too, the
white throat, vesper and chipping. We all
know the dear little song sparrow, and I am
sure my Volunteers have often watched the
grand flight of the swallows, and can tell apart
the barn swallow with its coat of steel blue
feathers which shine in the sun, and its bright
chestnut throat, from its equally beautiful
cousin, the tree or white breasted swallow,
that comes so early and stays so late. Both
of these swallows have very forked tails.

We give on the next page a sketch of a bird
with the names of the different parts of the
body, so as to help in learning about them.

The Volunteers must prepare for very early
rising. You can scarcely get up too early for
the birds. Remember that one hour, early in
the morning is worth a month of noondays, if
you wish to hear the sweetest songs, see the
morning bath, and learn those little ways
which make one kind of bird so different from
every other.

It seems to me that the robin is the first bird
to wake up. He starts in to wake up all the
other birds, and this is the way it sounds to
me. The first robin shouts, and shouts till
he wakes up another, then they begin. Says
the first one, "I'm glad you waked up, I'm
glad you waked up."

Number two answers, "You made such a
racket I had to wake up."

The first one, to cheer up sleepy head, says, "The sun's coming up and so are the worms." This has the desired effect, and number two answers cheerfully: "I'll be down in a minute, just wake up the others."

Then come in the sleepy notes of the chippey, getting louder as he rubs his eyes. Song sparrow tries over his notes to see if they are in tune for the day, and pretty soon every bird in the chorus is singing as loud as he can.

In this month we shall see a bird that has been with us some weeks. It is called the cow-bird. Few birds have such bad habits, yet we must remember that the evil ways of this bird are as much a part of it as its coat of feathers. Have you ever seen in the spring-time, walking about in the meadows near the cattle, a bird with dark brown head and neck, and body of black feathers, with a beautiful greenish gloss? This is the male cow-bird; the female is not so pretty, she is brownish gray, and her throat is nearly white. They follow about eating the insects that are stirred up by the cows, and you will usually see them in little flocks, more females than males.

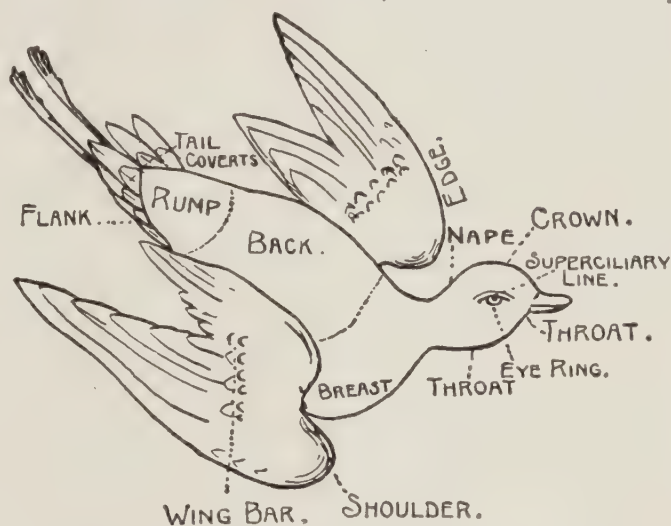
Now the mother-bird is lazy, and so was her mother, and if she ever knew how to build a nest, she has forgotten. But the egg must be put in some safe place, so she hunts about and finds a pretty cozy nest, and while the mother-bird who built it is away, she, the cow-bird, slyly puts her egg there. She may choose a song sparrow's nest, or a chippey's, but oftenest she chooses a nest built by the summer yellow bird. A dainty little home, made of flax and down, and soft grasses and moss. Here the cow-bird puts her egg. But the yellow bird is not so easily deceived. She sees the ugly egg. What do you think she does? Why, builds another nest above it. Sometimes she will do this three times.

If you will follow up from April 1st to 30th, every chirp or unrecognized bird-note, your books will overflow with records of early birds that will come and go all unsuspected by your neighbor, whose mid-day observances have not led him to their haunts.

One ornithologist compared his books for twenty-three years, and found that the nearer the full moon comes to the first of May the earlier the full number of our summer residents arrive. This seems to show that birds prefer, if possible, moonlight nights to travel in, so that they do not have to trust to hearing alone. With a telescope or even a powerful field-glass focused on the moon during

April and early May, one may detect birds flying across the moon's face. The smaller, weaker birds seldom rise over a mile above the earth, but the larger and more powerful sometimes seek a distance of two or two and one-half miles.

Birds vary much and curiously from year to year in their numbers, and the situations they choose. Last year, 1899, Western New York was unusually rich in Baltimore Orioles, that flashed undaunted through our city streets, built their pensile nests over the restless trolley, and sang their love songs without a thought of danger. At the same time our orchards bore tent after tent of noxious caterpillars on which these birds love to feed. Was there any connection between the two facts? If, on the one hand, our eyes were gladdened by the gorgeous orioles, our ears missed the song of that lyrical artist, the cat-bird. Only



one pair built near us, when before there had been a dozen, and instead of arriving like sleek gray nuns in April, it was the fourth of May before they began taking up the search for a dwelling, which is a matter of such great importance in a cat-bird's career. If one cannot go far afield to study birds, much can be gleaned from our own door-stone.

Why not take up the study of one pair of birds? You may note something never previously known about them.

Watch them from their first arrival. Note carefully their little ways of courting their mates, see how civil they are, how sweetly they sing. What materials do they choose for a nest? Where do they place it, on the ground in a bush, on a tree? See if you can distinguish the different notes, alarm, pleasure, anger, or consolation. We have about fifty-five song birds, do they sing for themselves, the world or their mates? That the conversational notes of a bird are absolutely different

from his song notes, nobody can deny. The chirp or twitter will be given while hunting for food, seeking nest materials, or pursuing any every day vocation. Not so the song. See the song sparrow seek the top of a young maple to pour out his gushing melody. All our birds, in fact, except those that have the celestial habit of singing as they fly, seek some vantage ground before they bend their energies to sing.

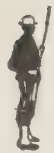
Since the December number was issued one student says he has readily distinguished twenty-seven different calls or cries among the crows.

In beginning the study of birds do not be discouraged if you cannot "name" your bird at the first acquaintance. Do not try to name too many the first season.

Above all let the sun greet you up and out, and if you have a locust tree, or any upon which the foliage is tardy in appearing, concentrate your eyes and attention upon that; you want to be able to see your bird to know him.

* *

HOT SHOT.



Attention, Volunteers!

Do you all wear your buttons?

Have you each made yourself a recruiting officer, and got one new Volunteer to join the army? We should soon have many companies if each member of V. V.s did this.

* *

In May we shall study about flowers and insects, and how they help each other. Walter Noyes will be glad to hear this.

* *

The following contribution by Charles Lott we publish exactly as he sent it. There are some mistakes in it, but it has many merits. It is brief, to the point, and accurate as far as it goes:

A robin is a very nice singing bird—it builds its nest on a tree—it lays about four eggs and when their young ones are hatched out the old one goes around to get worms for its feet—a robin's color is its breast is red and its wings is a dark brown—the young ones set on the trees and sing from morning till night.

* *

We have heard from our youngest Volunteer. He lives in Texas; his name is Henry Barcus, and he is five years old. He is very much interested in earth-worms and how they keep the dirt stirred up. I have read Wright's Nature Studies, too, Henry. Did you not like to learn about the ants, also?

Alice May Bean, California.—We were very glad to hear from you. Why not tell us about the silk-worms? We would like to hear how they eat, spin their cocoons, what is done with the silk, and any facts you know about them.

* *

Ruth Austin, N. Y., sends us a very pleasant description of some woodpeckers she saw. She heard a tapping in an old apple tree, one day last September, and decided to find out what it meant. When she came under the tree she found some chips on the ground:

"I looked into the branches and saw a pretty little bird, with a red head and gray feathers, and then I knew it must be a red-headed woodpecker. He was very busy boring a small hole in a decayed branch, and every once in a while he would put in his head, as if trying to measure it. He made several small holes leading to the one which was large enough for a nest, and each one was perfectly round and as smooth as if sandpapered.

"The first nest I ever discovered was in the trunk of an old cherry tree. I heard a whirring, tapping noise in it some days before I found out what caused it; on peeping into a small hole I saw a little bird at work, very busily. In about two weeks I went again; the nest was finished, and looking into it I could see a woodpecker sitting down; then I knew that Mr. Woodpecker had found a wife. She was not as pretty as he, for she had no red top-knot.

"Soon she flew out and I could see the two eggs on which she had been sitting; they were very glossy and white. A week or two later I saw some very hungry and lonely looking little birds that were not a bit pretty. Their heads were covered with black feathers, mixed with red, which change to red when the birds are about a year old.

"I thought the woodpecker a very interesting bird, after seeing these two gentlemen, one with a family and one without."

Does Ruth know that the woodpeckers are called the "Red-headed Family"? The Hairy, the Downy, the Red-bellied, the Sap-sucker, and the Flicker—our most familiar species—all have a red mark somewhere about their heads. That is, the male birds do. There is one exception to this rule,—the male and female Red-headed woodpeckers have head, neck and throat a brilliant scarlet, their breasts are white, and wings black, heavily marked with white. I think Ruth's birds are the Hairy variety—about the size of a robin, black and white above, white beneath, bright red band on back of neck; Female without red and body more brownish.

The male bird of this species has the very selfish habit of boring out for himself a snug winter home. We spoke of this in the February number, but did not mention how the spring sunshine seems to thaw out his selfish heart. He becomes a most devoted lover. He helps to scoop out a new nest; he carries away the chips; when the little birds come he feeds them and their mother; helps keep the house clean, and behaves so nicely that we forget his disagreeable winter manners. If you hear him again this spring, and he makes that "whirring" you wrote about, do not think he is drilling a hole, but that he is making his best attempt at a love song! Woodpeckers cannot sing, but they have their place in the bird band—they beat the drum!

* *

To the Volunteer sending me the longest list of birds seen and known during the month of April, I will send a large colored picture of one of our choicest and most familiar birds. Who will get it?

Nannie Moore.

BUD, BLOOM & SEED POD.

*Nearer to the river's trembling edge
There grew broad flag flowers, purple, pranked with white,
And starry river-buds among the sedge,
And floating water lilies, broad and bright.*

—Shelley.

April action.
Pussy willow, come!
Are tools all in order?
In with the hardy annuals.
The sun plays hide and seek.
Uncover the strawberry crowns.
Enrich the onion bed every year.
Trees: earliest planted least risk.
Thin out quince wood considerably.
Why not plan a window box or two?
Beets cannot be sown too soon for early.
Crowding young seedlings is inexcusable.
Early and often, the rule of sowing radishes
and peas.

Free airing of frames and hot beds must not
be slighted.

Of hardy roses you should have a bed of a
dozen at least.

I never saw a bird that did not devour in-
sects.—C. R. R.

A frame with glazed sash placed on the
strawberry bed will give you a nice taste of
early fruit.

In nothing else will a little money go so far
towards making home beautiful, as by setting
out reliable ornamental plants and trees.

The man with the hoe should now be in evi-
dence. No amount of manuring can atone for
neglect in stirring the soil and in weed killing.

We have yet to find a class of plants better
suited to occupy shady corners, where not
even grass will grow, than the wild ferns and
brakes.

Currants are too much neglected as regards
manuring. In many a garden there stands the
row of this fruit, bearing year after year and
no fertilizer applied. Try the effect of a lib-
eral coat of manure with pruning out of old
wood and you'll be surprised at the result.

Have you learned to value the full worth of
toads in your warfare against insects? Do you
instruct the boys that they are genuine friends,
not foes? If not, learn this lesson from the
farmers of France. In many rural communi-
ties the Frenchmen put up boards with this
inscription: "Toads help agriculture; destroy
twenty to thirty insects each hourly. Don't

kill toads"; and this of birds: "Birds. Each
department of France loses yearly millions of
francs by the injury done by insects. Don't
kill the birds."

Abutilons are not enough appreciated as
house plants. Of easy culture; rich foliage
that is handsome at all seasons; and great
bloomers for many months. Small plants
bought now at low cost, will develop into fine
specimens by fall. Keep in the open air dur-
ing summer, either in pots or else bedding
them out and lifting and potting in Sep-
tember.

April flowers precede May showers. How
we love these modest little snowdrops and
crocuses, and mezerium, and others that
head the grand procession of kinds that come
trooping through the season. 'Tis well to
sing of the May flowers brought forth by sev-
eral showers, but our highest joy is found in
their forerunners, that defy the frosts and late
snow squalls.

Massing Lilacs. We throw out a suggestion
which if followed, will bring us many thanks
in years to come. It is this: Let those who
have the room plant a large bed of lilacs, say
two dozen in variety. Include some of the
best varieties of recent introduction. Plant in
good soil with a distance of about six feet
between the bushes. Then wait a season or
two for floral sweetness and beauty.

LARGE TREE PLANTING IN CHICAGO.

A dozen or more years ago, we were hear-
ing a good deal about the planting of large
trees in the Chicago boulevards and parks.
The object, as in all similar cases, was to have
quick effects in arboreal beauty as well as in
the matter of shade. After hundreds of trees
thirty to forty feet in height had been planted,
residents of the western metropolis pointed
with pride to the rows in the park avenue,
where but a short time before there had been
only treeless prairies. But to set large trees
that have lost two-thirds of their roots in the
removal is one thing; to have them take on
thrift and develop into magnificence is quite

another. These thoughts came to the writer after a brief visit at the home of a Chicago friend who lives on Garfield boulevard, of that city. It is an excellent place to size up this subject of large tree planting. Here they are, the large trees set years ago, but alas, far from fulfilling the desires of the planters, if they had thrifty growth in view. So far from showing vigor, the average of the large trees present the marked characteristics of having had the large branches headed back to look stubby at planting time, while the long slender shoots—a sure mark of growth, are conspicuous by their almost total absence. The trees, for the most part, must be classed as cripples,—one cannot but wonder what their future will be. That they never will develop into large thrifty subjects seems certain. Will they be allowed to stand as rows of cripples always? But this is only one side of the object lesson revealed on that part of Garfield boulevard. The other side is one of hopefulness to tree planters who desire to profit by the experience of others. When this part of the boulevard was planted, it happened that the funds allowed of occupying only the center part of the highway between the two driveways, with the large expensive trees. The side rows, next the roadway, must put up with something cheap and small in the tree line. However, as the center was occupied with the large trees the presence of the smaller ones at the outside must be endured. But here comes the lesson. In setting the smaller trees, these were such as possessed a quality not known to the big fellows, namely, roots in fair proportion to the tops. Therefore they grew, while their companions, large above ground but weak in roots, stood still. The result is that years later the larger trees are about the size they were when planted, but the younger set have grown to be about the same height as the old stubs. It has been an unequal race to date and so must continue. To our mind the time must come when the trees of the outer rows, set at small cost, must stand forth as majestic specimens, while those of the inner rows, set out at extravagant prices, will, as a rule become more and more inferior by comparison, and in time no doubt must be replaced by new stock. Need more be said to show the folly of planting large and expensive trees, when in the long run those of smaller size, and costing much less, will prove in every way superior? It is a lesson that many seem slow enough to learn.

E. A. LONG.

THE BUSINESS MAN'S NIGHT BLOOMING GARDEN.

I have been much interested of late in the story about the way a business man planned and made for himself a most enjoyable night garden.

"It began with the moon flowers and white day lilies that my wife planted around the porch steps. We used to sit on the porch all through the warm summer evenings, and how I did enjoy those flowers! They were so white that I could see them even on cloudy nights, and so sweet that I could sniff them from almost anywhere in the house.

"August is the hottest month in the year but the great, white day lily buds, opening wide in the soft dusk just a little after I reached home from a tiresome, teasing day's work, sweetened it wonderfully for me, and almost made me long for it.

"Then I began to search for other white flowers that opened in the evening and soon had planted four o'clocks and evening primroses. There are some wild, pale yellow evening primroses that show plainly at night and are just as pretty and fragrant as the white garden sorts, though your *Oenothera odorata* (?) is a treasure.

"*Hesperis tristis* is another flower that I am very fond of and the great white stars of *Nicotiana affinis* shine clear through the dusk from their tall stems down by the gate. The little sweet-scented stock,—*Mathiola bicornis* of the lists, I think,—I always carefully keep seed of. It is as fragrant as a spice box after dusk, and I have the white and light sorts so that I can see them plainly in the evening. I have been trying to find a short pet name for *Schizopetalum Walkeri*. It has a most delicate perfume, like that of almonds, and the flowers shine after dark like little Maltese crosses of pure ivory white.

"Fortunately for me a great many of the white and light-colored flowers do not close in the evening and all the most fragrant of these, that would grow for me, I have planted in my night garden. My wife has crimson and scarlet flowers planted around among them for her own enjoyment in daytime, but, these, of course, are lost upon one who leaves his home on an early morning train and returns to it after dusk.

"Much of both health and pleasure I owe to moonlight tending of this little garden and the fragrance of its flowers."

L. GREENLEE.

LETTER BOX.

Let me have audience for a word or two.
—Shakespeare.

Polyanthus Narcissus after Blooming.

Will you kindly let me know what to do with the Polyanthus narcissus after it has bloomed? Miss, R. J. D.
Wintersville, Ohio.

After blooming the bulbs are worthless and can be thrown out.

* *

Carnations.

What shall I do with my carnations? I planted seed last year, potted plants in October, have four nice plants. Is it best to plant out or keep in pots? B. F. M.
Moundsville, West Va.

Better raise some young plants by taking the side shoots as slips or cuttings. The old plants can be planted out when frosts are over and will give some blooms in the garden during summer.

* *

Asparagus Sprengeri.

Will you tell me how to treat Asparagus Sprengeri for a basket plant? Would it be nice to put a tuberous begonia in the center? MRS. C. S. J.

Plant the asparagus in good, rich soil in the basket and put nothing in with it. The asparagus will want all the soil and will fill it with roots if properly treated. When it begins to grow be sure and give plenty of water. Never neglect it and allow the soil to become very dry.

* *

Clematis.—Ants on Peony Buds.

- 1.—Will clematis stand a Tennessee winter?
- 2.—Does its top die down in winter?
- 3.—How shall I keep ants off white peony buds?

Sneedville, Tenn.

M. M.

1.—Yes.

2.—Yes, some of the youngest, tenderest, new growth, but that will do no harm.

3.—The ants probably visit the peony buds because the latter are infested with plant lice. Destroy the lice and the ants will not visit the buds any more. This can be done by syringing the buds with weak tobacco water.

* *

Pandanus utilis.

Please let me know how I shall take care of my Pandanus utilis. I have had it for years, and last winter it became very rusty. I wonder if I gave it too much or too little water.

Medford, Wis.

J. M.

Without doubt the plant has been given too much water in the winter season. Although this plant should be watered freely when growing, yet in the winter it should have only a

small supply—once a week, or less, being often enough, as a rule. If the plant does not regain its color this summer, it will be best to throw it away and start again with a healthy specimen.

* *

Ferns—Bougainvillea—Begonia.

1.—What varieties of small ferns are best to use in small jardinières for table center piece?

2.—Does bougainvillea require any special attention, and can it be grown as an ordinary house plant?

3.—What begonia with scarlet pendulous flowers is of compact growth and will bloom during the winter season?

Lawrence, Mass.

D. S. O.

1.—Adiantum cuneatum, Adiantum gracillimum, Pteris cretica albo-lineata, Pteris serrulata, Pteris hastata, Davallia stricta.

2.—Bougainvillea with fair care will do well as a house plant.

3.—Begonia fuchsioides, Bijou.

* *

Murraya—Daphne.

Will you kindly give me in your MAGAZINE the treatment of the two following plants, Murraya exotica and Daphne odora or indica? Of the last named one I have two good plants, but for some reason cannot get them to bloom well; have a small greenhouse, keep temperature in day time at about 60° or 75°, and 50° at night time. Use part sand, turf and leaf mold for soil, drainage perfect, shower foliage every day, ventilation good, no draught; by giving the treatment of the two named plants in your MAGAZINE you will greatly oblige one of your subscribers.

Portland, Oregon.

A. G. A.

The treatment described appears to be correct in every respect for these plants, and nothing better can be offered. If any of our readers can suggest anything for this case we should be pleased to hear from them. Of course, it is probably understood that Daphne odora is never an abundant bloomer.

* *

Rex Begonia.

What is the cause of the leaves of my Rex begonia dying all around the edges? The plant seems to be in a healthy growing condition, even the young leaves show this same trouble as the older ones. I have tried growing it in the sunlight and out of it, but all I do makes no change for the better.

Ashland, Me.

MRS. J. R. E.

The Rex begonia as a window plant in a living room seldom thrives well. We have, however, seen it do well in the window of a place of business where the temperature was held comparatively even, and perhaps seldom or never quite 70°, and the room large and airy. But as an ordinary house plant it is ap

to fail in the manner stated by our correspondent. The main causes are undoubtedly too much heat and too little moisture in the air. In an enclosed bay window where moisture and heat can be properly regulated it does much better.

* *

Red Raspberries.

I have about twenty-four or thirty plants of red raspberries. When I planted them they had been cut back very short, but they grew wonderfully, four or six feet high. Now what I want an answer to in the MAGAZINE is this: How high ought a cane to grow before pruning? If a cane grows to be four feet high one season, how much should it be cut back for the next season? When? Ought a cane to be pinched to produce branches, and not grow so high; if so, what is the theory and practice? With a small number of plants is it worth while to do any training, such as stretching wires or posts or other contrivances, to prevent more or less straggling?

H. A. B.

It is not customary to prune or shorten in the canes of red raspberry. They will bear all the fruit they can support without forcing out extra branches by heading in. In spring, however, the branches can be shortened a little. When the plants have finished fruiting cut away the canes that have borne fruit, and if too many new shoots are starting remove all but six or eight. As to training, the plants look neater and they can be arranged better to get the sun equally if tied to a wire or two, stretched horizontally on stakes. One of these wires may be two feet, and the other four feet from the ground.

* *

Trouble with Begonias.

I purchased six begonias last spring. They came all right, and I planted them in four-inch pots; the soil consisted of leaf mould, garden loam and sharp sand; the plants grew and did finely, and everyone admired them, they were such beauties. One of my neighbors told me I would have to repot them in larger pots for winter, the four-inch pots being too small. In August I repotted them in six-inch pots and was so successful that they scarcely wilted, and kept on growing. But the last of September they began to die, one at a time; the leaves would dry up until there would be nothing left but the stem. I treated them the same in regard to watering as I did the rubra, argentea guttata, and kept the insects off them, and sprayed the leaves to keep the dust off, and kept them in the shade when the leaves were wet. I have ten different varieties that are doing splendidly under the same treatment. I have only the White Water left. Will the rest sprout out in the spring, or are they not evergreen begonias? These are their names: Mrs. Louise Closson, Corkscrew, Mrs. E. Bonner, Bertha McGregor, White Water, Richmond Beauty. Please tell me what was wrong with my treatment. I did not take the MAGAZINE last year and it seemed as though there was something missing in my mail; it is invaluable in plant raising and gardening.

Mrs. M. W. S.

Camden, Ind.

It was a mistake to repot the begonias at that time. They had pot room enough. If the temperature of August had continued through the fall and winter they probably

would have continued to grow, but before they had well overcome the shifting the temperature commenced to fall steadily, and thus impaired the vigor of the leaves. At the same time the large amount of soil in the pot held too much moisture, and checked the root action, until it failed altogether. These plants will not be apt to start again.

* *

Bulbs for House Culture.

1.—What treatment shall I give Amaryllis Johnsonii. I want one very much but know nothing of its culture.

2.—I have a Chinese sacred lily growing in earth. Will the bulb be of any good another season?

3.—When is the best time to start cyclamen seed, and how long is the seed in germinating. Which is the best to try, the dry bulbs or start the plants from seed?

4.—Is the Liliun candidum a good house plant. Is it hardy as far north as Maine?

5.—I love flowers and wish to cultivate something besides geraniums, for I want something that will bloom in the winter. I will be very grateful for any information you may give.

MRS. S. J.

Intervale, Maine.

1.—Procure bulb of dealer and pot it in good loam, leaving the top of the bulb just above the surface. Give a little water and growth will soon commence. When growing freely keep well supplied with water. As cool weather comes in the fall the growth will be checked, and then the supply of water should be correspondingly diminished. Keep in a moderately cool temperature during winter, with the soil slightly moist.

2.—No.

3.—It is best to start seed in the first quarter of the year, and the earlier the better. October or November may be a still better time. The germination depends on the heat of the house and the treatment, providing the seed is fresh. It may take from four to six weeks or even two months. If one has no greenhouse, and only a window for plant-growing, it would be scarcely advisable to attempt raising cyclamens from seeds. Better buy the bulbs.

4.—Liliun candidum is not considered a house plant, though florists sometimes force it. It is a good garden lily, and it is advised to confine its employment to that purpose.

5.—Our advice is to give attention to hyacinths, tulips, narcissus, and other bulbs, as the easiest, surest and most satisfactory way of securing bloom in the winter season.

* *

BEGONIA PICTAVIENSIS is remarkably free flowering, beginning to bloom in October and continuing for months. The large, flesh-colored flowers grow in fine clusters.



SOCIETY COUNSELS.

*... Wise men ne'er sit and wail their loss,
But cheerly seek how to redress their harms.*

—Shakespeare.

EASTERN NEW YORK HORTICULTURAL SOCIETY.

The fourth annual convention of the Eastern New York Horticultural Society was held in connection with the American Institute, in New York city, February 7th and 8th, 1900. The morning session was opened with a greeting by Dr. F. M. Hexamer, of New York city, and the response was made by the President, Mr. James Wood. Following were the reports of the standing committees on fruits, flowers, vegetables, insects, transportation, exhibition and legislation.

FRUITS AND VEGETABLES.

Mr. G. T. Powell reporting on fruits, said the peach crop was very short last year. He said that there was need of higher culture, and that we need to study the different varieties, as to the hardiness of the buds, and this is also true of the Japan plums. The keeping qualities of apples was impaired by the early frosts. The pear crop was unsatisfactory, and pear culture is on the decline, because of the pear psylla. Mr. Allen reported the condition of the vegetable crop last year was not up to the average. The market will take all that we can grow of the best quality, at good prices:

INSECTS AND DISEASES.

Dr. E. P. Felt of Albany, reported injurious insects to have been very destructive the past year. Many forests of sugar maples were ruined by the Forest Tent Caterpillars. Prof. S. A. Beach of the State Experiment Station, spoke of the Peach Yellows, or similar disease, on Japan plum trees, and Mr. J. H. Hale of Connecticut, also said there is no doubt that the Peach Yellows affects Japan plums, and it makes no difference whether they are budded on peach or plum stock.

FRUIT PACKAGES.

Mr. W. D. Barnes, chairman of the committee on "Legislation," reported the results of legislation on fruit packages. "We have now a law which makes the standard apple barrel the same size as the flour barrel. It must hold 106 quarts. The law now requires all apple barrels which are shipped, and which hold less than this amount, to be marked short. The law makes sixty-seven cubic inches to be the standard quart for small fruits, in New York State, and it is now a misdemeanor to sell small fruits in a smaller package, unless marked short.

PRESIDENT'S ADDRESS AND DISCUSSIONS ON IMPROVED FRUITS.

At the afternoon session, the President of the society delivered an address on the "Historical Dissemination of Improved Fruits." The history of the development and distribution of the improved fruits in this country, as given, was so full, that even a very condensed report would require more space than can be given. In the discussion that followed, the question was asked, why are raspberries now in less demand than in former years? Mr. Powell thought it was because of the over-lapping of the other fruits into the raspberry season, and because of the decline of the raspberries which are now grown for market, none of them being equal to the old Hudson River Antwerp.

Mr. J. H. Hale, replying to a question, said that the culture of the Japan plums was no longer an experiment. They have come to stay, and will be a success when we have learned how to grow them.

PROFESSOR S. A. BEACH, ON NEW VARIETIES OF FRUITS.

Prof. S. A. Beach, of the New York Experiment Station, gave an address on "New Varieties of Fruits not yet intro-

duced." Among the new and desirable varieties of apples, he spoke of the Arctic which is now being planted in the Champlain valley, in a small way. It is one of the hardiest of the American apples. It somewhat resembles the Baldwin in appearance. The quality is good, and the tree is productive. Another apple now being introduced is the Bismarck. It is an early bearer, good size, and fair quality, but it is not a dessert apple. The Greenville is a very handsome apple, and seems to be worth trying. The Ingram is a new apple that is a success in the West. It is being largely planted for the export trade. The Ontario is a seedling of the Northern Spy and Wagener. It has proved to be a good apple for northern latitudes. The Rome Beauty can be safely recommended for general planting in Southeastern New York, where spraying is practiced. It bears annually, and has an established reputation in market. It is not a strong grower, and should be top-worked on other varieties. It is a good dessert apple. The York Imperial is in demand as an export apple. It is an early and abundant bearer, and excellent keeper. Among the Japan Plums, the Burbank, Abundance and Red June have proved the best for the market. The Wickson is the largest, but the flavor is not high. It is not an early bearer but it is more productive as it gets older. Campbell's Early grape ripens between Moore's Early and the Worden. The flavor is better when left on vines for some time after ripening; it is worthy of trial. The Vergennes grape is winning favor, it is edible in October and keeps until Christmas. It is not a strong grower.

MR. G. T. POWELL ON MARKETS FOR FRUITS.

Mr. G. T. Powell, of Ghent, N. Y., followed with an address on "Domestic and Foreign Markets for American Fruits." He said that the question of quality in fruits should be given more attention if we wish to increase the demand for our apples. Instead of planting Ben Davis and apples of that class, we should plant apples of the best quality. I think we have an apple that possesses all the good qualities of the Baldwin, but of much better flavor, and therefore will be more acceptable in a foreign market. This is Sutton Beauty. The tree is a strong grower, the fruit ripens earlier, therefore is sooner in condition for shipping, and is free from many of the defects of the Baldwin. I think we should continue to plant such old varieties as the Swaar and Spitzenburg. The apples sent to market should be labeled as to variety, then the customers would learn to discriminate. The consumption of apples would be largely increased in this way. Fruits put up for a foreign market should be very carefully graded and packed. Success will come when we grow the best varieties, and give the orchards higher culture, and fertilize, cultivate, prune and spray them.

PROFESSOR M. V. SLINGERLAND, ON NEW INJURIOUS INSECTS, AND REMEDIES.

The first address at the afternoon session was by Prof. M. V. Slingerland of Cornell University, on "New Injurious Insects, and Remedies." Because of the rapid increase of insect pests during the last year, he reported the outlook discouraging in this State. In no place has more attention been given to discover means to combat them, or is there a better equipment for the work, yet we have not been able to destroy, or hardly keep them in check. Fumigation, is without doubt the most practical method of killing these insect pests, and we need a law that will compel all nurserymen to fumigate their stock. This fumigation should always be done by experts, as the gas which is used is very dangerous to handle, unless one knows how to use it. It

is a fact, now acknowledged by the most of our entomologists, that the San José scale can never be exterminated in this country. It may be held in check, as can the Black Knot, but we can never hope to be rid of it. Because of the means of transition of injurious insects, those localities now free from them, can be expected to be visited by them. Some of these pests have their parasites, which at times may reduce them to some extent. We may as well make up our minds that we must study the subject of remedies, and that we must use them, if we grow marketable fruit. The demand for Paris Green has become so great, several substitutes are now offered, but some of them are dangerous to use because of the free arsenic in them. The fruit grower should wait until the Experiment stations have tested them. White arsenic has proved as effectual as Paris Green. It can now be bought for four and one-half cents per pound, which is one-third the price of Paris Green.

FARMERS' READING COURSE.

A representative of Cornell University next spoke of the advantages that are obtained by taking the Farmers' Reading Course that is issued from that university. Farmer's boys who are unable to attend the university, should send for this course, which is free. The object of this course is to prepare farmers to read and understand the more scientific instruction in agriculture, and to get farmers into the reading habit. The plan is progressive. It begins with that which is simple, and leads up to the instruction given in the Experiment Station bulletins. Mr. G. T. Powell, and others present, strongly endorsed the Farmers' Reading Course.

MR. W. F. TABER ON IRRIGATION.

Next on the program, was the address of Mr. W. F. Taber of Poughkeepsie, N. Y., on "Irrigation." Mr. Taber has one of the most complete irrigation plants in the State, and speaks from experience on this subject. He first made the point, that to get the greatest benefit from either the natural or an artificial supply of water, the soil must be well filled with humus. When humus is deficient, the cheapest way to get it, is to make soil produce it, by growing and plowing under cover crops. There are times, when even with the largest supply of humus in the soil, the natural sources of water supply are insufficient for the plants. Sometimes, with garden crops, we lose enough on one acre in a time of severe drouth to pay for an irrigation plant.

After an almost complete loss of the berry crop, because of drouth, I decided to put in an irrigation plant, and purchased a gasoline engine for pumping the water. A well was sunk on the farm, and a pipe was laid from it to a lake near by. Two inch pipes were laid over the farm, and the water taken from these and distributed with a two inch linen hose. It requires 27,000 gallons of water to cover one acre one inch deep. This can be lifted twenty feet with a fuel cost of fourteen cents with a gasoline engine. It is better to pump the water through the pipes with an engine than to pump it into a tank, and let flow from it through the pipes, for then there is but little pressure to throw the water. The force afforded by the engine, would throw the water fifty feet from the end of the hose. From five acres of strawberries that were irrigated, I sold in 1898, \$1,900 worth of berries, while a neighbor had less than one-third of a crop on land not irrigated. One should mulch the strawberries to get the best results with irrigation, and I am using shredded cornstalks for a mulch. I have purchased a shredder and the gasoline engine furnishes the power for running it. My plan is to mulch the plants in the fall, then in the spring rake the mulch in rows with a horse rake, then cultivate and weed the plants, and replace the mulch, and irrigate when it is needed.

In the discussion that followed, Mr. Hale asked if irrigation did not retard the ripening of the berries? Mr. Taber said that he had found it did retard the ripening, and he had marketed his berries later in the season, when prices were higher.

Mr. Hale had also had experience with irrigation, and he thought the better way was to run the water in troughs between the rows, for sprinkling the foliage is often a cause of fungus diseases. Sub-irrigation is the best method,

though more expensive. We get the most benefit from irrigation only in connection with high culture. No one is ready for irrigation until he has prepared his soil for it by filling it with humus, then giving it good cultivation, and using the mulch.

FUMIGATION OF NURSERY STOCK.

At the beginning of the afternoon session, the discussion of the fumigation of nursery stock was resumed. Mr. Hoyt, a nurseryman who was present, thought it unjust to enact a law compelling nurserymen to fumigate, while the individual growers do not. Mr. Van Alstyne said that such a law would not injure the honest and reliable nurserymen, but would prevent dealers in nursery stock from selling infested stock. The result of such a law would be to place the business in the hands of responsible men, for the small irresponsible dealers would not wish to comply with the law, and fumigate.

COLD STORAGE.

The subject of "Cold Storage" was next discussed by Mr. A. W. Williams of Highland, N. Y. He first spoke of the difficulties to be met in the business, and advised anyone going into the business to first get all the information possible in regard to it. Cold storage has not proved a success with berries, and one should wait for the tree fruits.

While pears can be kept for a considerable time in cold storage, yet the one fruit that can be the best kept in this way is the apple. Grapes and other small fruits lose their flavor. The results of cold storage, even with apples, are not always satisfactory, for often when the conditions have not been just right, it has taken two or three barrels of cold storage apples to make one barrel of marketable fruit. Although there are difficulties to be overcome, yet there are times when crops could hardly be marketed without cold storage. We sometimes have such large crops of apples that they would not be marketable at any price, if it were not for cold storage.

THE ENGLISH MARKET FOR FRUIT.

In this connection, Mr. H. S. Baker, who is connected with a large cold storage establishment, talked about the English market for apples. He said that the only real competitor we have in the English market is our nearest neighbor—Canada. The United States and Canada last year sold more than three million barrels of apples in England. The reason why we do not get the highest prices, is because of the way the apples are packed. Our barrels vary in size, and often fine fruit is put on the top and bottom of the barrels, and poor fruit in the middle. Packed in this way, the shipper gets pay for only the poor grade, and the good apples are all wasted. The American shippers would obtain better prices, and save twenty per cent. of the freight, if they packed their apples in boxes instead of barrels. Use packages of a uniform size, and then grade all the apples. England is our best customer for our fruit, and there is no reason why we should not get the highest prices. It is something the English people cannot understand, why so intelligent people as the Americans should ship their fruit in the condition that it is received. With our cold storage facilities, and fine fruits, we could obtain the highest prices in any market, if only proper attention was given to packing and grading the fruit by the individual growers. In reply to a question, Mr. Baker said that the size of the standard apple box is 22 x 11 x 10 $\frac{1}{4}$ inches, and that the individual grower would obtain better prices if he adopted the box in place of the barrel.

FRUIT AND VEGETABLES UNDER GLASS.

The program was concluded by addresses by Mr. William Turner and Mr. C. E. Hunn on "Fruit and Vegetables under Glass." Mr. Turner described his method of growing grapes under glass, and said the White Muscat was the best grape for this purpose.

EXHIBITS.

The exhibits of fruits, vegetables and flowers was very good. Fine specimens of the older and the newer varieties of apples were shown, and seasonable vegetables and flowers from the greenhouses. The new rose "Liberty," was on the President's table and attracted much attention.

W. H. JENKINS.

AWARDS OF THE AMERICAN CARNATION SOCIETY.

At the meeting of the American Carnation Society, in Buffalo, last month, prizes and certificates were awarded to the exhibitors of flowers, as stated below:

The Cottage Gardens' Silver Cup, for best dark crimson, to Cottage Gardens, Queens, N. Y., for Governor Roosevelt.

The Chicago Carnation Company's Silver Cup, for best light pink, to Dailedouze Brothers, Flatbush, N. Y., for No. 3.

The Lawson Gold Medal, to Dailedouze Brothers, for No. 666. (Three Sixes.)

The Lawson Silver Medal, to R. Witterstaetter, Sedamsville, Ohio, for Adonis.

SWEEPSTAKES.

First, to Dailedouze Brothers, for Mrs. G. M. Bradt.

Second, to R. Witterstaetter, for Enquirer.

Third, to R. Witterstaetter, for Adonis.

ONE HUNDRED BLOOMS.

White—First Prize, to J. L. Dillon, Bloomsburg, Pa., for Queen Louise.

Light Pink—First Prize, to L. E. Marquisee, Syracuse, N. Y., for The Marquis.

Light Pink—Second Prize, to E. G. Hill & Co., Richmond, Ind., for Ethel Crocker.

White Variegated—First Prize, to Chicago Carnation Co., Joliet, Ill., for Mrs. G. M. Bradt.

White Variegated—Second Prize, to E. G. Hill & Co., Richmond, Ind., for J. Whitcomb Riley.

Crimson—First Prize, to Chicago Carnation Co., for Maceo.

Scarlet—Second Prize, to Chicago Carnation Co., for Jubilee.

FIFTY BLOOMS.

Crimson—First Prize, to R. Craig & Son, Philadelphia, Pa., for Gomez.

Crimson—Second Prize, to R. Craig & Son, for Maceo.

Yellow—First Prize, to H. Weber & Son, Oakland, Md., for Mayor Pingree.

Prize of \$5.00 for best vase of fifty blooms of Gomez, to Dailedouze Brothers, Flatbush, N. Y.

TWENTY-FIVE BLOOMS.

Dark Pink—First Prize, to E. G. Hill & Co., Richmond, Ind., for Leslie Paul.

THREE YEAR CERTIFICATES.

To R. Witterstaetter, Sedamsville, Ohio.

For Estelle, a Scarlet, with 86 points.

For Enquirer, a Pink, with 88 points.

For Elinora, a White, with 89 points.

To John Kuhns, Philadelphia, Pa.

For Mrs. Bertram Lippincott, a Light Pink, with 86 points.

To Cottage Gardens, Queens, N. Y.

For Gov. Roosevelt, a Dark Crimson, with 93 points.

To Dailedouze Brothers, Flatbush, N. Y.

For No. 666, a White, suffused with Pink, with 89 points.

PRELIMINARY CERTIFICATES.

To R. Witterstaetter, Sedamsville, Ohio.

For No. 550, a White, with 90 points.

To Peter Fisher, Ellis, Mass.

For The Maine, a White, with 88 points.

To Dailedouze Brothers, Flatbush, N. Y.

For No. 100, a White, with 87 points.

For Delight, a Light Pink, with 88 points.

PROFESSOR VAN DEMAN'S FRUIT NOTES.

Professor H. E. Van Deman, of Parksley, Virginia, will hereafter supply our readers each month with some fruit notes. Any questions that may be asked regarding fruits or their culture will be answered by him to the best of his ability.

* *

Set strawberry plants with their roots straight down and as deep as possible without covering the crown and smothering it. Some of the best stands I have had were where I had used a spade to set the plants. By this means the roots are so deep as not to dry out before taking hold upon the soil. The new roots will assume their natural position as they grow.

* *

With the opening of spring the tillage of our orchards should begin. The moisture from the winter rains and snows should be kept in the ground for the use of the trees by laying a blanket of mellow earth over it. The fruit buds are formed much earlier than we once thought. The trees need all the help they can get to enable them to carry a load of fruit this year and prepare buds for another crop.

* *

There is no doubt that spraying fruit trees when in bloom is both needless and harmful

to the delicate organs of the flowers. It also kills large numbers of honey bees and other insects that are essential to the perfect pollination of the flowers. Spraying should be done just before the flower buds open, and soon after the petals have fallen.

* *

Puddling the roots of trees and plants of all kinds before planting is an important and profitable practice. It is so easy and cheap and adds so much to the chances of success that there is no good reason why everyone should not do it.

At some convenient place dig a hole about a foot deep and two feet wide. Fill it more than half full of water. Into this put good mellow earth that has clay enough in it to make a sticky mud when well mixed with the water. Stir the earth and water, adding one or the other as may be required, until the puddle is a mass of thin mud. Into this dip the roots of every tree or plant just before setting it out. A number of trees may be puddled at once or several bunches of small plants, provided they are not allowed to dry before setting. When the mellow soil is pressed to them in the holes it will stick to the muddy roots much closer than with the ordinary method of planting.

EDITOR'S NOTES

Missouri Botanical Gardens.

From Dr. William Trelease, with his compliments has been received the eleventh annual report of the Missouri Botanical Garden, a handsome volume such as is now yearly sent out by this institution. Besides the business portion of this report there are a number of scientific papers on botanical subjects with numerous handsome lithographic plates. A revision of certain American species of Euphorbia, and the Diseases of Taxodium and Libocedrus, and a review of the species of Lophocarpus, of the United States, are the subjects treated.

* *

Cyclopedia of American Horticulture.

The most important horticultural work yet undertaken in this country is that bearing the above title, and of which Mr. L. H. Bailey, Professor of Horticulture in Cornell University, is the projector and editor, assisted by Mr. Wilhelm Miller. Mr. Bailey also receives the assistance of many other scientific and practical horticulturists who supply information on those subjects to which they have given special attention. This work is designed to be completed in four quarto volumes, of some 500 pages each. The first volume has lately been issued and comprises subjects alphabetically from A to D. This complete work is intended to comprise directions for the cultivation of horticultural crops, and original descriptions of all the species of fruits, vegetables, flowers and ornamental plants known to be in the market in the United States and Canada. It is very fully illustrated and will contain over two thousand original engravings. It is published by The Macmillan Company, New York. Sold only on subscriptions, at twenty dollars for the complete work.

After having the first volume on our desk for some days, and frequently consulting and examining it as a working reference, it is a pleasure to say that the scope of the work is all that an exacting critic could demand, and the treatment of the subjects is equally as satisfactory. A work of this kind has for some years been greatly needed in this country, but is probably well that it should have been delayed until the present time when our horticultural methods, in their various lines, have taken on fixity of form, the result of experience and consequent development. In the early part of the century Loudon published his *Encyclopedia of Gardening* and later the *Encyclopedia of Plants*, works of great importance at that time and for many years after the comprehensive works of reference in the English language. These together with the serial horticultural publications and monographs or volumes treating on a few special subjects were the great sources of consultation by gardeners and horticulturists up to the time of the issue in England of Nicholson's *Illustrated Dictionary of Gardening* in 1881. This, a splendid work in four quarto volumes, has been of invaluable assistance to gardening interests. But in the nature of the case it could not minister to the special needs of American horticulture. As a forerunner it has to some extent served as a model for the valuable work which Professor Bailey is now preparing.

The work of Nicholson has for several years past been undergoing translation, reëditing, enlargement and adaptation to the needs of French horticulture, and lately has been completed and issued under the title of *Dictionnaire Pratique D' Horticulture*. The translation made by S. Mottet, and the preparation of the various subjects by some of the most distinguished scientists and horticulturists of France. This work is in five volumes, very complete, and the treatment according to the latest modern ideas.

The *Cyclopedia of American Horticulture* will fully equal this great French work, and in some respects be superior to it, without, of course, referring to American methods and practices in relation to which it is an authority of itself. A special notice is due of the work in the cyclo-

dia by Mr. Alfred Rehder, of the Arnold Arboretum, near Boston, an expert in trees and shrubs, who is devoting nearly all his time in the preparation of the subjects in the cyclopedia in his particular line. Mr. Rehder is the writer of the article "Actinidia," in the present issue of this publication. It is impossible to notice all who take part in the work, and it can only be said that the best talent in the country is engaged, each person giving the best of his knowledge and experience in his particular line of work or investigation. Our readers may be assured that in these four splendid volumes we shall have the latest information and the highest authority on American horticulture.

* *

Obituary.

Robert C. Brown. Mr. Robert C. Brown of the nursery firm of Brown Brothers, of this city, died of pneumonia

on the 27th of February. A wife and daughter survive him: Mr. Brown was thirty-six years of age. At the age of twenty he and his brother, Charles J. engaged in the nursery business and the enterprise has proved to be successful, a large business having been established with a branch establishment in Canada. The company was incorporated ten years ago under the name of Brown Brothers & Co. Mr. Brown was highly esteemed for his social character and his many sterling business qualities.

* *

John G. Glen.

Mr. John G. Glen, senior member of the Glen Brothers Nursery Company, of Rochester, N. Y., died February 28th, at Haddon Hall, Atlantic City, N. J., where he had gone for rest and recuperation. The news of his death was received with surprise and sincere sorrow by his many friends.

Mr. Glen was fifty-seven years of age, and was one of the most successful business men of Rochester. He was a man of the strictest integrity, and held the esteem of all with whom he came in contact. He was of a retiring though very kindly and generous disposition; freely giving to the wants of many who were not so fortunate, but in a way that very few of his benefactions ever received public notice.

* *

Elbert S. Carman. This well-known publisher and editor died on the 28th of February last. Mr. Carman was

owner and editor-in-chief of the *Rural New Yorker*, for twenty-four years, and only retired from the position last June. By his business capacity he built up that journal until it had a large circulation, and by his editorial ability made it one of the most influential of the agricultural papers of this country. He was greatly esteemed by his associates, and the readers of the *Rural New Yorker* regarded his writings as the best of authority. Mr. Carman, at his country place, for years made collections of newly introduced seeds, plants, trees and shrubs, and took great interest in their development, and published his observations for the benefit of his readers. He made many experiments, of various kinds, such as hybridizing grains, roses and other plants, and raising new varieties of potatoes from seeds. Some of his gains of the latter have proved of great value. As an upright, conscientious man, and a writer of ability, he made a lasting impress on the agricultural community, and dignified horticultural journalism.

The subject of this notice was born in 1836, entered Brown University in 1854, and after completing his studies went into business in the city of New York. His literary tastes soon connected him as a writer with several New York publications, and later his horticultural tastes developed until he engaged as a writer for the *Rural New Yorker*, and which he soon purchased and managed. When he retired last year he announced that his interest in horticulture was unabated, and that he should now have the opportunity to give more time to his garden. But a few months only have been allowed him to continue the pursuit he so much loved.

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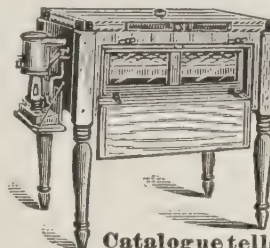
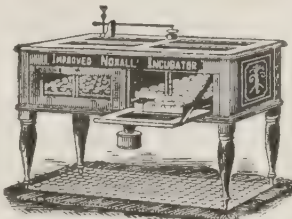
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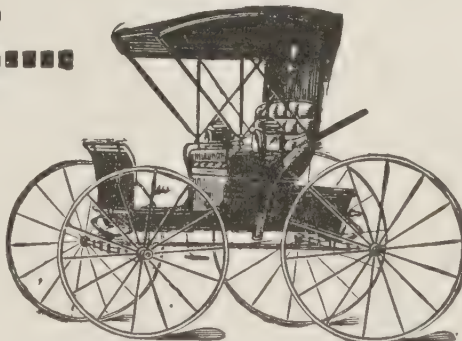
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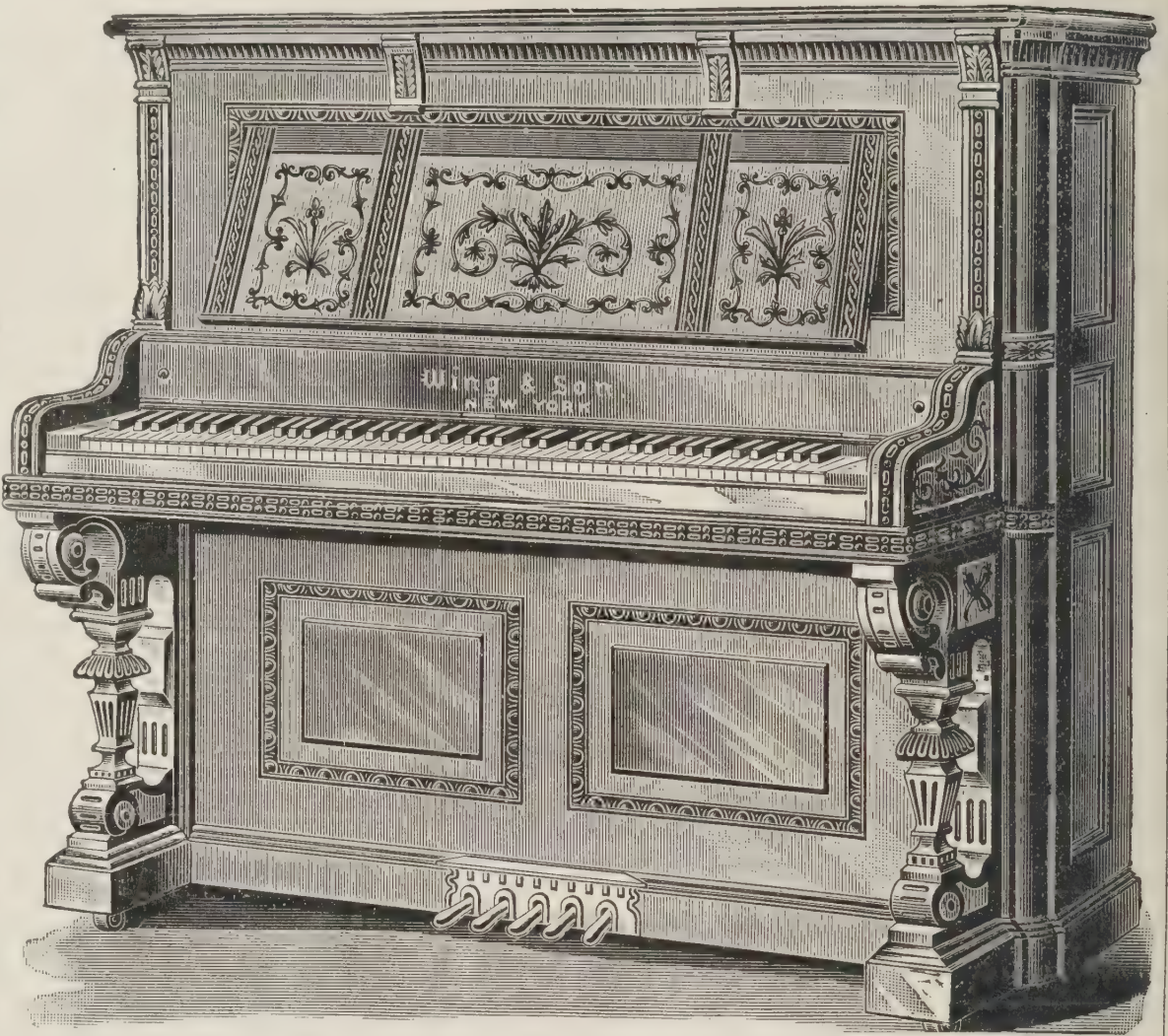
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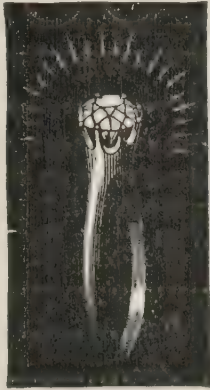
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Pains in the stomach grow very intense,
Indigestion's the cause and we need a
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City or Town..... State.....

Sex..... Age.....

Married or Single

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Is your hair falling out?..... Losing color?.....

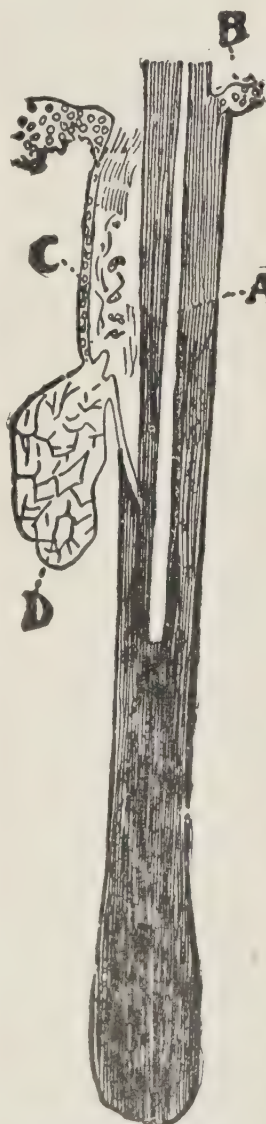
How often do you wash it?.....

Does your scalp itch?..... Any odor?.....

Any scaly eruptions?.....

Had any serious sickness lately?.....

What is the state of your general health?.....



**MICROBES HAVE
JUST ATTACKED
THIS HAIR**

A—The Hair.
B—The Scalp.
C—Microbes.
D—Food Gland.

Hair needs food to keep it alive.

The food *should* be supplied by the blood vessels of the scalp which run up to the hair roots.

If the roots have been weakened by scalp microbe, your hair falls sick, falls out, turns gray.

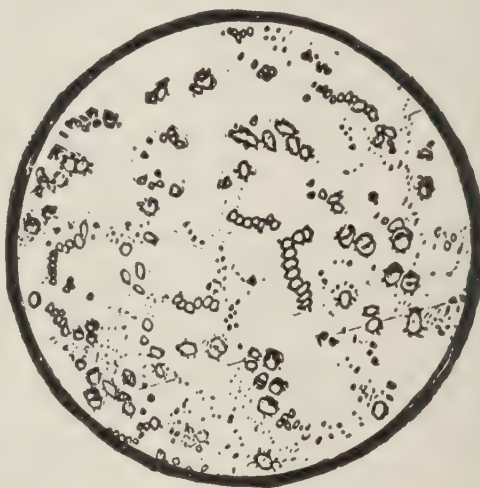
A sure sign of "hair disease" is dandruff.

If dandruff is allowed to remain it *smothers* the growth of your hair.

Heretofore the treatment of diseases of the Hair and Scalp has been a matter of guess-work, without regard to the cause.

In the laboratories of the Cranitonic Hair Food Co., of New York, the only institute in America devoted to diseases of the hair and scalp, the cause of the disease is learned by means of a Microscopical Examination and a cure effected by exact and scientific methods.

From an examination of 1,000 different samples of human hair no fewer than 24 different diseases of the hair and scalp were identified; many of them contagious and dangerous in the extreme.



THE DANDRUFF MICROBE
which causes Dandruff, followed by Falling Hair
and Finally Baldness.
From Photo-Micrograph by Dr. Fahrig.
(Copyright 1899.)

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The advantages of these researches are offered free to all our readers, as the above Question Blank shows.

If you wish to be cured of dandruff, to save your hair and grow more, write to
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and you will get a *free bottle* of Cranitonic Hair Food, by *mail prepaid*, with full directions for use, and a *free report* on the condition of your hair and scalp.

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"Recipes" advertised for remedies that "can be made at home" are utterly valueless; while those "prescriptions sent free" are nothing but frauds, as no druggist can put them up.

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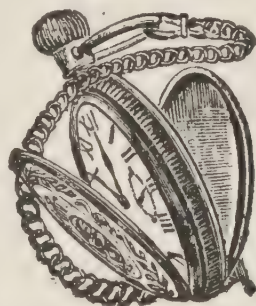


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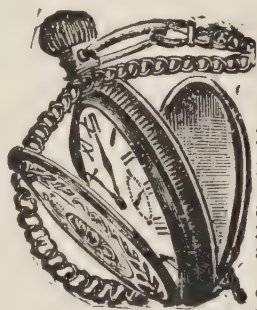
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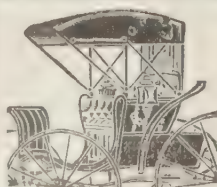


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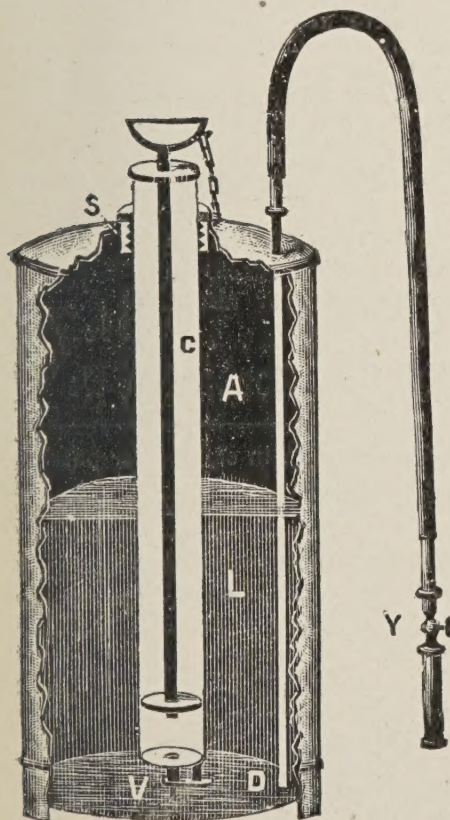
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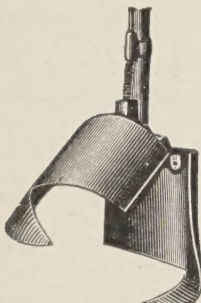


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
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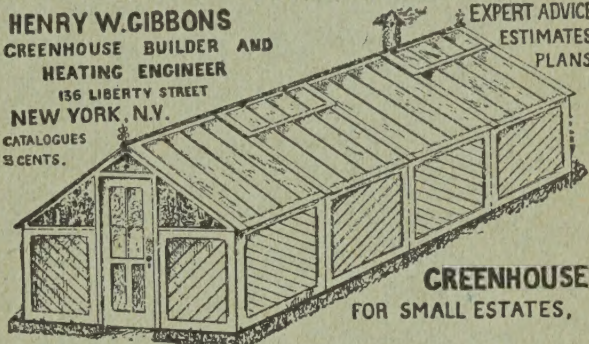
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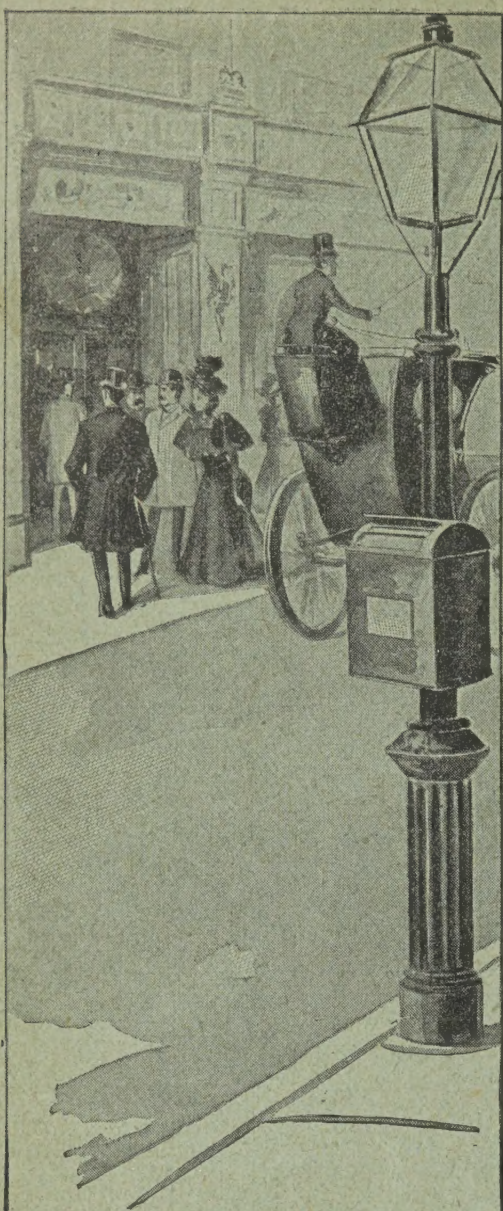
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